NEXT

GENERATION

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October 1996

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Core Design's *Tomb Raider* for PlayStation, Saturn, and PC epitomizes the hit games of 1996: It's fast, graphically lush, and not available for the Mac. Apple hopes to change this, and its plans to take on the PC are revealed on page 38

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TAIL OF THE SUN: It's the strangest, most bizarre PlayStation game yet. And it's *great*

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Can it **succeed?** Can the **Mac** ever **topple** the **PC?** And why has Apple **never cared** about games **before?**

The exclusive full story begins on page 38

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The World According to Trip
3DO's Trip Hawkins has got a message — 32-bit is dead. He believes that PlayStation and Saturn should give up now, in preparation for the 64-bit generation of DVD-powered, online-enabled game machines. This is a great interview. Read it

Can Apple run with the big guns?
Despite its impressive graphics technology and ease of use, the Macintosh has never been anything close to a gaming powerhouse. Now Apple wants to change all that. Can it be done? An exclusive **Next Generation** report

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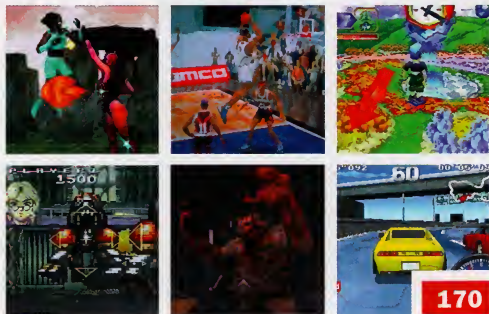
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The world according to Trip

"I overestimated how good 32-bit technology would be. I overestimated it all. And Sega and Sony blundered right into the same mistakes a year or so later"

Trip Hawkins remains one of the game industry's brightest sparks. He's an illuminating visionary, a brilliant marketer, a shrewd businessman, and a complete pain in the ass (as far as Sega and Sony are concerned). Why? Because he's telling everyone who'll listen that the 32-bit generation is dead in the water. And now, riding high with $70 million in the bank and a sweet deal with Matsushita (the biggest consumer electronics company in the world), he intends to prove it with M2 and a whole new range of 64-bit games.

Despite never supporting The 3DO Company's original 32-bit game platform (it was never going to take on PlayStation and survive), **Next Generation** has always admired and respected Trip Hawkins. The game industry needs him. And the following interview offers a piercing look into his unique (and, to many, exceedingly controversial) point of view:

Winner or loser?
NG: Most people probably still think of The 3DO Company as a casualty of the hardware wars, and as a very troubled company. How close is this to the reality of the situation?
Trip: Well, at the end of last week we had more than $70 million in cash in the bank, so we're actually one of the best financed companies in the game industry. But it's true that a lot of people probably don't realize what good shape we're in, or what changes have been made at 3DO. It's been a very significant transformation.
NG: So what kind of company were you before this transformation, and how is it different now?
Trip: If you look at what we were before, we were in what we call the "Field of Dreams" with the idea being, "If you build it, they will come."

Well the flaw in that type of business model is that you spend a lot of money building it, "the Dream," and then you're depending on someone else to manufacture the hardware, manufacture the software, and get it all sold — and then

you're going to sort of rip off the royalties.

And that gives you two problems: one, you've got all your eggs in one basket; two, you don't have control of the basket. So it doesn't really work. Even if you're very lucky, it's still not a safe way to run a business.

The other thing we figured out about the whole 32-bit generation was that there wasn't really any way you could do it right. It will *never* be mainstream. Coming off of the success of the 16-bit market and coinciding with the changes taking place in the PC market, I think what the consumer will ultimately prove is that 32-bit wasn't different enough, wasn't better enough, and wasn't cheap enough to be a big product category all by itself.

This sounds strange, but it's nothing uncommon to the PC market where certain generations of processors have been skipped, like the 286 processor, which was never a big deal.
NG: So what's wrong with 32-bit?
Trip: The feedback we've received through focus groups with consumers who have decided not to buy any 32-bit systems indicates that they don't see a dramatic difference in the quality of the graphics over 16-bit. And I think the reason for that is that, in terms of 2D graphics, there isn't a dramatic difference, and in terms of 3D, 32-bit machines aren't good enough to do the job properly.

When you start moving the camera perspective in a 3D game on a 32-bit system, you don't have the features you need — like bit-mapping, and filtering, and transparency — and so, as you get closer to the images, the pixels get big and blocky, there are problems with crossing pixel boundaries, etc. If you compare *Super Mario 64* to *Sonic Extreme* on Saturn, you can really see the difference.

So over the next few years, 64-bit will really be a distinguishable leap forward for consumers, they'll feel immersed in a 3D world which they could never get from 32-bit.

And although we were the first people in the

photography: Mark Keehler

3DO

talking

> **"We've got over $70 million in cash in the bank, so we're actually one of the best financed companies in the game industry"**

32-bit market and the first people out, it doesn't matter because the problems are generic and every single company — be it Panasonic, or Sega, or Sony — that has manufactured and sold a 32-bit format, has lost money on it.

NG: But you're talking about Sega's and Sony's 32-bit efforts in the past tense. Surely that's a little premature?

Trip: Well, they can keep trying to sell them, but consumers are becoming aware of this thing called 64-bit. Certainly, Nintendo's going to drive that awareness, then Matsushita's going to help drive it. The consumer's also becoming aware of technologies like DVD and they're aware of the Internet. If you look at consumer interest in those three things and then you look at 32-bit products that don't deliver them, it means in all likelihood that this year will be the peak for 32-bit and then it will decline fairly quickly.

NG: You're saying that the lure of even better technologies is keeping 32-bit down?

Trip: The fear of obsolescence has always been a major factor in consumer electronics. But with the 8-bit and 16-bit consoles, with prices at $100 or so, the consumer didn't have such a problem with it.

Besides, Sega introduced the Genesis in Japan in 1988 and it wasn't until 3DO's product announcement in 1993 that anyone even talked about 32-bit anything. So there was about a five-year period where the consumer didn't have any fear of obsolescence. They could spend their $100 and feel safe. But then even before the first shipment of any 32-bit machines, Nintendo was already talking about their 64-bit product. They announced it three years before it shipped.

The industry climate has changed now. Consumers are aware of new technologies and new machines way ahead of time. So if you talk about prices of more than $100, they start to get really nervous about the investment.

This is a market category where the consumer wants to feel cool, but it's also a market where parents who are buying something for their kids don't want to waste their money. Technology in some ways is moving too quickly for the consumer and they're kind of angry about it, so they've maybe shut down their interest in purchasing a little.

NG: So how can the industry change this? Surely, you're not saying that it would be better if technological development slowed down?

Trip: No, I think that what will start to pull us out of that as an industry is when you harness together 64-bit computing, DVD, and the Internet in one product. That's a product that a much, much larger audience will be interested in.

It's a product that also transcends this issue of obsolescence because nobody thinks of the

Internet as being obsolete overnight, quite the opposite. Nobody thinks of DVD as being obsolete, they think of it as being a movie format they'll watch for the rest of their lives. The game format within the equation, even at 64-bit, is still somewhat exposed to that issue, but if it's just a feature of something a consumer is going to buy for other reasons, then they're not as concerned about it.

NG: And you don't see this technology being immediately superceded by 128-bit?

Trip: It's going to be a while before you hear anybody talk about 128-bit processors because there's no compelling reason to go to 128 bit. So even Intel in the PC market will be using 64-bit processors for the foreseeable future.

What went wrong?

NG: That all sounds very sensible and well thought out. So why did you launch a 32-bit machine in the first place?

Trip: Simple. We know this now, but we didn't know it then.

If you go back to 1990, that's when I cut the big publishing deal for Electronic Arts with Sega. I knew that deal would put EA in good shape for the rest of the 16-bit generation, but I was actually really concerned about where the industry was going to go after that.

I looked at the market and thought, "Gee, the PC is not going anywhere" — because at the time, nobody was talking about audio/video features on the PC, it had very poor processor performance, and poor graphics. It didn't have the right sound capabilities and it didn't have multiuser capabilities. There was no Internet. The PC market generally looked pretty sleepy.

In the console market there were these machines that ran very expensive cartridges, had very little capacity, couldn't really do very much and were also lumbered with very Draconian business models. So it seemed like a good time to try and do something about that.

NG: So what went wrong?

Trip: I think what 3DO overestimated, what I overestimated, was how good 32-bit technology would be, how easily consumers would digest the value of it, how easy it would be to develop for, and how much you could get out of CD-ROM technology and digital video. You just go right down the line, I overestimated it all — and I have to say Sega and Sony blundered right into the same mistakes a year or so later.

Then what we got was a lot of savage criticism of CD-ROM for being a slow and inept technology, developers complaining about how much more it cost to write for, the video quality not being good enough, consumers bemoaning too much emphasis on video and not enough on gameplay. But I don't think these things were specifically 3DO's problems, I think everybody

fell into the same boat.

Then if you go back to when Nintendo announced that Ultra 64 would be priced at $250, that was the fall of 1993. They were assuming that all these 32-bit machines would be $500 and sure enough when Sega and Sony introduced in 1994, they introduced at $500. Now, here we are less than two years later, and they're at $199. Well, the reason they're at $199 is not because of production economies — the reason they're at $199 is because they can't sell them at a higher price-point.

NG: But sales have picked up since the price drops by Sega and Sony to $199.

Trip: Even at $199, everyone has found that the volume just isn't what they hoped it would be. In terms of what the technology can do, you would expect that 32-bit at $199 would be doing about the same numbers as 16-bit was doing at $149 or $129, but it's not even remotely close.

At this stage, the 16-bit market was doing about 20 million units a year and was well on its way to achieving an installed base of 50 to 60 million. Thirty-two bit isn't even close.

NG: Nevertheless, Sega and Sony do seem to have made a better go of 32-bit than 3DO did.

Trip: It depends how you want to define better. Sega lost $600 million last year.

NG: OK, in terms of units sold they've both done significantly better.

Trip: Sony had the benefit of coming in last so they could see all the mistakes that Sega and ourselves had made. They also came up with a

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The 3DO Company's HQ in Redwood City, CA, is gearing up for a full-scale assault on the 64-bit world

talking

Will Hawkins thrive in the 64-bit age? Many pundits believe that he will ramp down 3DO's hardware operation and concentrate exclusively on creating software. Is he pining for the old days at Electronic Arts?

"I don't expect a lot of people to jump back on 3DO's bandwagon because I don't expect a lot of people to understand what we're doing"

very nice product, but then if you come in later you can use later technology, so they were able to utilize a RISC processor that was further into evolution than anything we'd used.

I think you have to look at Sony's overall execution and say they did a pretty good job all across the board. They were certainly better at marketing the product than Panasonic were with 3DO, but there again they had the monolithic model, they were able to control all the factors within one company. Having said that, Sony has lost money. They've lost a lot of money.

NG: What about Sega?

Trip: Sega had the advantage of having a very strong brand — arguably the best videogame brand in the world. They've managed to screw that up now, but it was, at one stage, an advantage. They also had some very strong coin-op properties.

NG: 3DO never had strong software, did it?

Trip: 3DO was a start-up company, so we started out at ground zero and came up with a different concept about how to do this business, one which was certainly novel and which a lot of people were very intrigued by. That's why a lot of companies signed up to support it.

But I think in retrospect, it doesn't work very well if you have a sort of patchwork quilt with these guys doing the hardware, and these guys doing the software, and these guys managing the licensing program. It just doesn't work.

NG: So what's the right way to do it?

Trip: What you need is a company that's a driving force: a company that makes, markets, and sells the product, and also supplies enough of the key software to really get the format going until the third parties come in. We've learned that lesson, Matsushita's learned that lesson, and that's why the M2 business model is much more along those lines.

NG: Do you think that Sega and Sony have done as well as possible with 32-bit, given your belief that 32-bit is fundamentally flawed?

Trip: Possibly. I guess what I'm trying to say is that if 3DO, Panasonic, and Goldstar had wanted to lose as much money as Sega and Sony have lost, we could have sold more machines.

NG: Would more hardware licensees have helped the 3DO cause?

Trip: We were certainly hoping for that. In retrospect, the timing of how we did the whole thing was off. We put the hardware in the market prematurely, before there was enough software ready. The reason that happened is that we were way too dependent on third-party titles and the third parties were late. So once we got that out of kilter, Panasonic wanted to launch the hardware anyway, the software companies didn't care if they did or if they didn't, so everything was out of sync.

I think that's why you now see format companies much more focused on launching

platforms without depending on third parties. You have Sega, Sony, Matsushita, and Nintendo. Basically, these four companies are all pretty strong and pretty self-sufficient — they don't really need third parties, particularly if you tie Sony and Matsushita up with DVD, where they have a lot of movie software. Then, in terms of having a killer app, you have a lot of movies available and that takes pressure off games.

NG: Sony wasn't known as a game maker when it first launched PlayStation.

Trip: I think what Sony initially did was to try and do what 3DO did, which was sign up tons and tons of companies and tons of product. Now they're beginning to realize that it's not a particularly good strategy. Generally, third parties' schedules are unreliable and their quality is also very unpredictable.

Sony knows now that by allowing so many products to get started in development everyone's going to lose more money and have more resentment about paying license fees to them. At E³, the rumor was that Sony was going around telling licensees that while there are 350 products in development, they're only going to approve 150 for the U.S. They might find they're a little bit late trying to control the situation.

NG: When did you realize that the original 3DO machine and business model were not going to work?

Trip: Things were difficult from day one because the launch timing was messed up. Throughout 1994 we weren't spending a great deal on it — and neither was Panasonic — but we were still trying to be resourceful to try and get it going. In early 1995, we realized there was no way we were going to make it work, better to withdraw.

NG: Do you think you got enough support from Matsushita, Sanyo, Goldstar, and the rest of your hardware licensees?

Trip: I think everybody gave it their best effort. The problem is that if the structure is fragmented, everyone's waiting for everyone else to do it. It's hard to work as a federation.

NG: So if you could go back to the inception of the 32-bit project, would you do things differently? Or would you not do it at all?

Trip: With hindsight, what I would have done is shifted emphasis over to PC software, and then tried to take the high ground by pushing for sound and graphics on PC.

If you look at a company like Origin Systems, they were relatively small and their strategy was to support real high-end PCs, and what happened was that the market grew up to their level and they expanded tremendously. That would have been the right thing for me to do — just not worry about the console market for a while, let the technologies mature a little bit.

It's like a lot of engineering. You have a new idea, you build it for the first time and in the

process you rethink things, fine tune things, until eventually you have to throw it all away and start all over again. I think that's what the industry's just gone through with 32-bit.

Now we're looking at DVD vs. CD-ROM, MPEG 2 vs. MPEG, 64-bit vs 32-bit. It's like we had the right core ideas but they weren't executed perfectly. This time around I think you're going to see things done right and you're going to have far greater mass-market potential.

Buckets of cash

NG: Going back to your opening comment, how did you land $70 million in the bank?

Trip: We stopped spending money on the 32-bit market a year and a half ago, so that helped. But then, two years ago we started working on M2, so we were running up a pretty good expense for that, but we weren't getting

talking

> **"It's going to be a while before you hear anybody talk about 128-bit processors because there's no compelling reason to go to 128-bit"**

any revenue out of it.

Once we realized we didn't want the "Field of Dreams" model, we decided we had to do a couple of things. First, any market we're in, let's have a revenue driven approach to it — let's find a customer who wants to pay cash. Second, let's not put all our eggs in one basket. Let's make sure that when we design a technology we can leverage it across more than one market.

So we started to see that this 64-bit technology that we were developing was in sync with where console gaming was going, with where DVD was going to go, with where Internet boxes would go, where the PC was going, and that all four sectors could include products using the same core technology.

We went to Matsushita and said, "Here's how we want to change our approach to the business," and we sort of did a trade with them. If you look at the 32-bit model we had with them, we essentially gave them the hardware technology but we kept the software licensing program. That drove them crazy and didn't work for us. So what we've done in 64-bit is say, "How about if we give you control of how you bring the technology to market, let you run the software licensing program, but we keep the rights to the hardware."

The $100 million deal that we struck with them means that even if we had no rights to do anything else, M2 would still have been very profitable for us. But the key is that M2 is a compatibility format, so if I take a disc and stick it into a player and it plays, that means it's M2 compatible. In the consumer game market, only Matsushita has the rights to that API.

They have no rights, however, to any derivative works. So what that means is that we could go in and fiddle with a few bits, make

something M2 prime, and we would have the rights to that. So in terms of deriving an Internet box or a PC chip or a downstream next-generation version of M2, we own all the rights and they don't.

NG: It sounds like a great deal for you. How did you get Matsushita to agree to it?
Trip: Well, they don't really understand how to deliver this kind of technology on their own, so they very much depend on a company like us. And they also had to make a decision on whether to be partners with us or to try and find someone else.

We were the best choice in terms of our ability to execute the technology and the kind of financial deal they could make with us. They got what they wanted, they got the technology they wanted, and they got control over the parts of the business they wanted. Plus they're a very, very large company, so for them to make this kind of investment is not a big deal for them.

What we do from this point on is treat this deal as the anchor for the hardware business and we start doing other things like PC chip deals and spinning off other businesses like MPEG encoders and arcade boards.
NG: Has the $100-million deal wiped out the losses you made on the original 32-bit project?
Trip: No, from 1991 to 1995 we lost a lot of money, well over $100 million, so we have what is called an NOL (Net Operating Loss) carried forward. It means that we weren't clever, we lost a lot of money, but it also means that we have a big tax benefit if we ever make any money, so we won't be paying any taxes to speak of for the foreseeable future.

Games for all platforms?

NG: What strategy do you have in terms of selecting which formats to publish on?
Trip: We'll publish on any format that we think will have a meaningful installed base and holds some synergy for us — and if we're not going to publish our games ourselves, then we'll license on the rights to some other publisher.

We recently did a deal with Acclaim and they're going to publish three of our titles on PlayStation and Saturn.
NG: Why not publish yourselves on PlayStation? It's surely the next-generation market leader...
Trip: Put it this way, if I thought that PlayStation was going to be a really large market and I thought it was going to extend far enough into the future, then we would publish for it ourselves. I don't believe that, so I'm happy to let somebody else have the rights and we'll just get some money out of it. We'd rather concentrate our resources on platforms that have a greater long-term value.

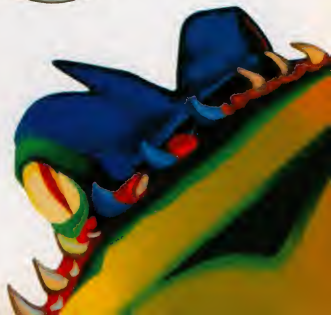We're using the M2 as a sort of launching pad for our 64-bit publishing.

PREPARE TO FLY.

(and soar and spin and climb and dive and look way, way down on everything else)

NiGHTS
into dreams ...

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Hot videogame news from the U.S., Europe, and Japan

M2: Matsushita breaks its silence

In the following world exclusive interview, Next Generation learns more about M2, Matsushita's 64-bit super console

"The M2 offers the same capabilities as Sega's Model 3 arcade board"

Hiroyuki Sakai, Matsushita

Hiroyuki Sakai is currently producing software for M2. Can the machine compete with Nintendo 64? Mr. Sakai has no doubts at all

Mr. Hiroyuki Sakai is a producer for the Software Development Department of Panasonic Wonderentainment, a game-developing division of Matsushita created in April of this year. Located in the Shibuya-ku district of Tokyo, part of Panasonic Wonderentainment's job is to create M2 games. In an exlusive interview with **Next Generation**, Mr. Sakai revealed much of Matsushita's strategy concerning M2's launch:
NG: How close is the M2 hardware to completion?
Mr. Sakai: Presently, the hardware is almost finished. At the beginning of the development we wanted to incorporate a Power PC 603 custom chip, but the final hardware will include two Power PC 602 chips. This will push the hardware to the best of its specifications, and yield higher performances. But other than these adjustments to the CPU, the hardware is practically finished.
NG: How will the twin CPUs be used?
Mr. Sakai: One of the CPUs will mainly be doing the 3D matrix calculations, while the other CPU will focus on the general calculation, such as working out each character's movements, sounds, routines, etc. The twin CPUs will work using "pipeline processing."
NG: In terms of graphic performance, how will M2 compare to the 32-bit PlayStation and Saturn?
Mr. Sakai: The 32-bit generation has brought some real improvement in game making, such as nice graphics, good sound, numerous polygons, and so on. The M2 will bring the same capabilities, but at a higher level.
But, personally, I think that we shouldn't only consider these factors in making a good game: They are not enough, good gameplay is also a very important thing for the player. But as far as graphics quality is concerned, the M2 will fully satisfy players.
NG: The strong point of the Playstation is its polygon chip, the Saturn is better at 2D processing. What will be the strong point of the M2 hardware ?
Mr. Sakai: The M2 will include a graphic chip that will be able to display some polygons and MPEG1 pictures at the same time on the same screen, and this is the main great technical point of the M2.
For example, the screen can be split into two parts, the upper part could be an MPEG movie and the lower part can be done in polygons. You could have an aeroplane flying in the MPEG1 upper part of the screen, then when it dips into the lower part, it would be made of polygons.

M2: The story so far

M2 was originally designed by The 3DO Company as the 64-bit successor to "Opera," 3DO's original 32-bit architecture, which was manufactured as the 3DO Multiplayer by Goldstar and Matsushita.

A year ago, The 3DO Company licensed the exclusive rights to produce an M2-based game machine to Matsushita. The company has been refining the hardware since that time.

Panasonic Wonderentainment's HQ in Tokyo, launch pad of M2, and home of Matsushita's intensive 64-bit software development division

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Nintendo 64 at $199
Nintendo has dropped the price of Nintendo 64 to $199. "We're serious about this market" commented a Nintendo spokesperson, "and this is our way of drawing a line in the sand."

But why? All the pre-launch hype would indicate that Nintendo was facing a sell-out. Well, contacts in Japan report that sales of the N64 have slowed down alarmingly in the weeks following its Japanese launch, due to disillusionment with the lack of any new software. Presumably this will have freed additional N64 units for the U.S. market, and caused Nintendo to believe that additional incentive might be required to stimulate demand.

Romero Quits Id
Id co-founder John Romero has left the company to start up his own enterprise, tentatively called Dream Design. "This new venture will allow me to focus on different types of games, in addition to the first-person action genre," Romero said.

Staff wanted
We are looking for new writers to join the **Next Generation** team in San Francisco, CA. Successful candidates will be excellent writers, have an extensive knowledge of computer and videogames, and be team players. To apply, send a 200 word review criticizing (constructively) a game you don't like, and a resume to: Writing Sample, **Next Generation**, 150 North Hill Drive, Brisbane, CA 94005.
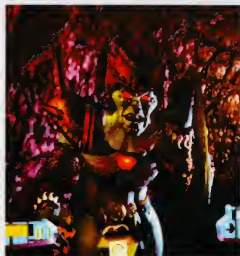
A technology demo for M2 shows "game" footage of a *Doom*-style corridor shooter, complete with demons and monsters

So special effects like the ones found in a Hollywood movie will actually be playable on the M2. So whereas with the present game machines, most of the CG scenes are found only in demonstration mode (it's not possible to play them) the M2 will allow players to interact with them
NG: How will the M2 hardware compare to Sega's Model 3 board?
Mr. Sakai: I think the hardware capabilities can be considered as approximately similar. But, I do not know exactly the Model 3 specifications. I base my opinion on the specifications announced by Sega — the number of polygons, processing speed, and so on.

Considering these officially-announced specifications, I think the M2 offers the same capabilities as the Model 3 board. But, you must remember that the Model 3 is an arcade board, whereas the M2 is a consumer board. So I really think we've made good hardware.
NG: How many M2 games are currently in development ?
Mr. Sakai: There hasn't been any official announcement yet. We can only say that at M2's release day, consumers will not be dissatisfied by the number of software titles available. They will be more numerous than they were for the Nintendo 64...
NG: Which third parties are currently up to speed with M2 development?
Mr. Sakai: We are now licensing some more third parties. Officially, only Capcom, Konami, and Warp are involved in M2 development. But I can assert we have a number of other important third parties developing for M2 that haven't been announced yet.
NG: Is the design of the M2 casing finalized yet?
Mr. Sakai: We have submitted a design and we are now trying to get a

definite approval from the management. In fact, last year we designed various different models, and chose four or five to mock up. From these, only one mock-up is left — and this will almost definitely be the finished model, we are only waiting for a final approval.

But I can tell you that the design will be completly different from any of the mock-ups seen so far.
NG: How will it be different?
Mr. Sakai: The design will have some sharper edges.
NG: Will the M2 be compatible with old 3DO software?
Mr. Sakai: 3DO software will not be able to run on M2. It will not have any downward-compatibility. We are now internally talking about the best way to introduce this 3DO accelarator to the public. But, nothing has been decided yet.
NG: Will the M2 feature a DVD player?
Mr. Sakai: Yes, we are currently investigating potential development environments for DVD-based software. In the future, we definitly want M2 to connect to a DVD player.
NG: Panasonic introduced a DVD player at the last Tokyo Windows Expo' 96. Would it be this player that would be released for M2?
Mr. Sakai: The technology would be the same, but the design would be different.
NG: Will any other accessories be available for M2?
Mr. Sakai: Yes, we are thinking about a modem, for example.
NG: How do you want M2 to be introduced to the public?
Mr. Sakai: At the time of release, we want to market the M2 as a game machine. But because of the hardware potential, we may — after the release — present the machine in another way. We may connect a modem, a DVD player, or something else. But at the release, the machine will be marketed as a game machine.
NG: Who do you see as your strongest competitor?
Mr. Sakai: As far as hardware is concerned, Sega's Model 3 board will be our direct competitor. Concerning the company aspect, our competitor will probably be Sony. [Laughs]
NG: Will the new 64-bit SNK machine be a competitor?
Mr. Sakai: I do not know exactly what are the specifications of their new machine, but I believe we have very different targets. But we have to see the machine first.
NG: How much will the M2 game machine cost at launch?
Mr. Sakai: The Playstation was

Who is it?
He's the creator of such classics as *Syndicate*, *Populous*, and *Magic Carpet*. He's even been called "the PC's Shigeru Miyamoto." Current rumors insist that he will soon quit the company he founded...

"The M2 will can display polygons and MPEG1 video on screen at the same time. This is its main technological advantage"

Hiroyuki Sakai, Matsushita

breaking

released at ¥34,800, the Saturn was released at ¥40,000. Now, these two machines are being sold at around ¥20,000. We believe in marketing the M2 at a lower price than the Playstation and Saturn were launched at. Even if we lose money on the hardware, we want to release it at a price that will allow us to reach the maximum number of consumers.

NG: How many do you hope to sell?

Mr. Sakai: We would like to sell between 1 million and 1.5 million units in the first year. If we want to sell any more than 2 or 3 million units, it becomes dependent on our production capacity.

NG: How many people have worked on the M2 hardware at Matsushita?

Mr. Sakai: It is difficult to estimate... Maybe a little bit more than 100.

NG: What sort of gamer will you be targetting M2 at?

Mr. Sakai: Until recently, game players were young. Super FamiCom [Super NES] players were high school students, but now users are university students or employees in companies. Users have become older and the game market is becoming bigger. The upper part of this market, the older people, have plenty of disposable income, and decide themselves what they purchase. High-

Matsuhiuita relishes the chance of competing with its arch-rival Sony. So will M2's arrival provoke the release of PlayStation 2?

games. It is also known that Matsushita has a close deal with Williams to convert its arcade titles to M2. Is this a direct strategy to compete with Sony's deal with Namco, and Saturn having all Sega's own in-house arcade games?

Mr. Sakai: Some arcade companies have already started developing titles for the M2, and some are about to start. It is also possible that we may develop some titles for the arcade using a system similar to Sega's ST-V or Namco's System 11 boards.

The M2 has specifications that make it good enough to make it a good arcade board.

Many of the details

revealed by Mr. Sakai are surprising. First, from a technological point of view, using a CPU for 3D matrix calculation would seem wasteful. Conventional wisdom suggests that it is possible to achieve a much higher price/performance ratio using a DSP. 3D matrix calculation is basically a repetitive operation in which the same calculation is made over and over again — and to use a PowerPC 602 CPU for this is basically a waste of silicon. Indeed, Sony included a 32-bit multiplier/adder (thereby jury-rigging a very simplistic matrix calculator) into PlayStation's R3000 CPU, and the two basically run as two separate components. An informed source told **Next Generation** that Matsushita's thinking smacks of either a lack of design expertise (unlikely), or — and this makes more sense — that the designers ran out of time designing the front end matrix calculator (the geometry engine). Is Matsushita all of a sudden rushing to get M2 out early?

The twin CPUs are another mild surprise (although details of this move

This racing demo is almost as old as the M2 project itself, but Matsushita refuses to show its hand with any new screenshots

school student are dependent on their family, and a full-time employee buys three or four times more software than a high-school student.

This older consumer is one of the targets we would like to reach with M2 in the near future. But, having said this, we are also targeting the same users that the other game machines are going after.

NG: So is this the same audience as Sony is targetting with Playstation ?

Mr. Sakai: Maybe even older

NG: You mention that M2 is working closely with Capcom and Konami, companies famous for their arcade

Resident Evil 2
Exclusive: Coming soon from Capcom, *RE2* is shaping up to be another PlayStation blockbuster.
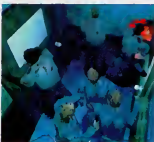
The original *Resident Evil* remains PlayStation's best selling game

Sega Touring Car Championship producer, Tetsuya Mizuguchi

Sega Touring Car Champ

Tetsuya Mizuguchi has left Sega's AM3 arcade division (where he produced *Sega Rally* and *Manx TT*) to form his own "AM Annex." This Model 2-powered racer will be his first new high-octane project.

Sega's racing dominance looks set to continue. More STCC next month

leaked over a month ago, see **NG 20**). It would appear that perhaps Matsushita is planning extensive use of MPEG1 with M2, and that the second CPU is pretty much dedicated to this purpose. Or perhaps the second CPU will perform some function dedicated to M2's DVD inevitable DVD applications.

As for the simultaneous MPEG1 video and polygon-based 3D, it's technically interesting but probably a wildcard in terms of game design (can you think of a real gameplay-enhancing use for it?).

Matsushita's alliance with Konami and Capcom is already known, and will undoubtedly yield dividends. *Street Fighter 3*, exclusively on M2? We'll bet good money on it. What is surprising is that Mr. Sakai makes no reference to the Studio 3DO titles developed at The 3DO Company's HQ in Redwood City, CA. This may have more to do with the perenial Japanese snobbery towards U.S.-developed games than any lack of quality output from Mr. Hawkins & Co, but still — it is a strange ommission.

What is also strange is Matsushita's tardiness in keeping other U.S. M2 development on the boil. Several high-profile U.S. developers have abandoned M2 projects, or simply turned them into Nintendo 64 or PC titles — all for a lack of support from Matsushita HQ. "No one seems to know what's going on" is a common revelation. And while Matsushita sorts itself out, there are many companies out there who are bending over backwards to get games developed for their system.

Obviously, DVD will play a bigger role in the M2 story than Matsushita is willing to reveal in this interview. If Matsushita agrees with Trip Hawkins's belief that "Matsushita's real shot at becoming a strong supplier of a games format depends on how well they can integrate DVD technology with M2," then there are obviously a few chapters yet to be told in the M2 story. Indeed, there are still more unanswered questions than there are answers. There is neither news of a concrete release date nor details concering M2's joypad, custom graphics ASIC, or the amount of internal RAM (although a whopping 8MB is rumored).

Next Generation doesn't expect to see M2 this year, but we'll be sure to bring you more information as we get it. **ng**

In the studio

A peek behind the closed doors of the game developers...

The 3DO Company's *Meridian 59* is being described as "the world's first 3D graphical multi-user dungeon (MUD) for the Internet." Some 17,000 people have beta-tested an early version of the game, with "millions" predicted to join in once the final version is launched. *Meridian 59* will enable thousands of people to play simultaneously across the Internet in full 3D. It's set in a medieval world, in which players can kill monsters, solve puzzles, seek treasure, barter commodities or just simply chat.

Meanwhile, the 3DO Company has also opened a new office in Redmond, Washington, and has grabbed Tony Garcia, Microsoft's erstwhile game chief to run the show. The Northwest office will concentrate solely on high-end MMX supported games.

Psygnosis PlayStation hits *Krazy Ivan*, *Assault Rigs* and *Discworld* are all currently being converted to Saturn, but will probably not be published by Psygnosis (which is still officially part of the Sony empire).

Details concerning *Daytona Plus: Daytona Championship Circuit Edition* for Saturn are emerging. After speaking with Sega of Japan, Next Generation can confirm that the *Sega Rally* team is cooperating

in the project's development, under the directorship of Ryuichi Hattori. The principal changes from the original Saturn *Daytona USA* are the additon of a two player mode and ghost mode, compatability with the new analog pad, and — of course — a complete graphical overhaul, including both models and textures. The frame rate never dips below a slick 30fps, and two-player games are possible over Sega's X-Band network. The game is due for release in the U.S. later this fall.

A version of *Sega Rally* is also being completed for on-line play, and it is these two driving games (plus an online version of *Baku Baku*) that is expected to spearhead Sega's online assault later this year.

Interplay has confirmed that it will be releasing *Clay Fighter 3* for the Nintendo 64. The wacky fighting game will be arriving at an unspecified time in 1997, along with Interplay's other planned Nintendo 64 release *Ultra Descent*.

Game design guru Peter Molyneux could be on the verge of quitting Electronic Arts-owned Bullfrog. According to reports in the UK, Molyneux, the inventor of such classics as *Populous*, *Theme Park*, and *Syndicate* is reportedly tired of EA's "corporate culture" and is keen to set up a new entrepreneurial enterprise. In an interview three months ago, he hinted at his feelings saying: "We used to have meetings every two or three weeks, but in a corporate culture you have meetings every two or three minutes." He is expceted to make a final decision after the completion of *Dungeon Keeper*.

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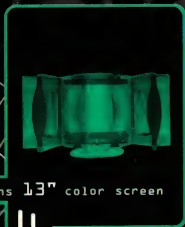
Arcadia

All the latest arcade and coin-op news

by **Marcus Webb**

Marcus Webb is the editor-in-chief of *RePlay* magazine, the U.S.'s leading trade amusement magazine.

Nintendo Licenses **Nintendo 64** For **Arcades**

Nintendo (Japan) has announced a licensing agreement with another Japanese firm, Seta, to apply the Nintendo 64 home system's CPU and its architecture to coin-op videogames. Seta will create three different coin-op systems (PCB based, motherboard type, or dedicated) around the Nintendo 64 architecture and then offer them to other arcade manufacturers.

This set up will enable game producers to try out games cheaply in the coin-op market, then convert them to Nintendo's home platform at little extra cost. At this point, there is no word from Nintendo or Seta as to which game developers have signed up.

Disney Plans Chain Of **Fun Centers**

Outposts of the Magic Kingdom? The Walt Disney Company is planning to enter the location-based entertainment business (venues with multiple entertainment attractions and themed restaurant complexes, all at one site).

Steve Dooner, a longtime arcade management pro, heads planning out of Disney's Glendale, CA-based Disney Stores Division. There's no official word on sites or strategy yet, but Steve has confirmed that Disney is doing this one alone, without any partners in the venture.

Our reading of the tea leaves suggests that Disney will create a clever strategy to avoid the disastrous mistake made by Discovery Zone (which only appealed to kids while forgetting to entertain parents — the one's who supply the cash). The Disney Stores Division has already enjoyed notable success with its chain of mall-based retail sites, which sells Disney toys, videos, and clothing. So the obvious question is, will Disney simply rent more space in the same venues and expand existing stores to include food, games and other attractions? Or will it create separate, brand-new game venues?

Stay tuned.

Modem-Linked Video Scores

The leader — and so far, sole entrant — in modem-linked arcade tournaments is Incredible Technologies, the Chicago-based manufacturer of Peter Jacobsen's *Golden Tee 3D Golf*.

While competing systems continue to test, IT ran its first "real world" multi-state contest from mid-June to July 7, using 145 machines in six states — Wisconsin, Kentucky, Illinois, Ohio, Indiana, and Pennsylvania. With cash prizes worth thousands of dollars at stake, hundreds of players competed. One midwest location had players standing outside waiting for the place to open so they could get into the tournament.

Bank on it: with IT crowing over its results, NANI, WMS, and all the other would-be networks have an extra incentive to get busy and put their networks on the street.

Konami's Back!

Sega and Namco have built up such a lead in high-end computer graphics for coin-op, that most competitors have thrown in the towel. Only one Japanese game factory — Konami — gritted its teeth and put big bucks into playing catch-up.

Its investment is now starting to pay off, both in the bottom line (global coin-op game sales went up 71.7% over last year) and with some great new simulators. The latest is *Winding Heat*, which puts players behind the wheel of a souped-up street vehicle with a choice of 14 hot rod cars and a selectable menu of four automotive performance features.

A few arcades got their first units in September, but most won't be out until October or later. Two configurations will be built: a 50" projector-monitor sitdown version and a 25" monitor upright version. Four units can be linked for interactive competition. Players will enjoy force-feedback steering, a new 3D "spatializer" sound system, mid-race auto to manual shifting, and changeable perspectives (behind the wheel or behind the car).

Konami's *Wave Shark* was shown at ACME '96, where it got a very positive reception from the trade. Starting this month, players can enjoy crashing through the choppy water on this wave-runner simulator. The cabinet looks like a real jetski with a 50" monitor, and up to four units may be linked for interactive play. Polygon-based graphics and full-motion simulation are enhanced by realistic grip-type accelerator and handle bars. Bank by leaning in the turns, or speed through curves by banking and using the handle bar controls together.

Konami's glory years may yet return.

War Gods: A Change In Plans

In the long months since Williams/Bally-Midway debuted *War Gods* at a March trade show, lots of new and extra programming has been added in response to suggestions and complaints about the title's poor gameplay.

The resulting delay prompted trade rumors that *War Gods* would skip the arcades and go straight to the home for the Christmas 1996 selling season. Wrong! By now, readers should be seeing first units of this title in leading arcades.

It now seems that home release won't happen until next year — in fact, maybe not until the Christmas 1997 season.

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Up-and-Coming Coin-ops

Aquajet, the newest jetski arcade unit from Namco, should hit arcades in October, as mentioned last month in Arcadia. Two levels, standard and expert, check-points, jumping competitions, and drift turns should make this game yet another cool simulator from Namco.
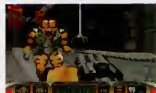
Online gaming: two giants merge

Mpath Interactive and Catapult Entertainment join forces

It's not even up yet, but MPlayer may already have the online edge

Duke Nukem 3D is being offered by one of Mpath's competitors, TEN. Can the giant hope to compete in the harsh world of online gaming?

Mpath's online rivals are skeptical of the motives behind the merger

I n the ultra-competitive online game service market, two combatants have allied. MPath Interactive (providers of the imminent MPlayer game service) and Catapult Entertainment (the company behind the pioneering X-Band) have inked a deal worth an estimated $5-$10million. The new company will continue to run under the name Mpath Interactive.

The deal makes sense, as Catapult has little experience in the PC world, while Mpath has no experience in the world of consoles. The plan would seem to be that together the two can cover all the bases. Catapult's X-Band system for Genesis and Super NES never turned a significant profit (16-bit was already doomed before it launched), but the company can now approach 32-bit with invaluable experience, as well as having interface, cutomer support, and billing infrastructure in place. Meanwhile, Mpath brings to the party what many believe to be the industry's best server technology for PC-based online gaming. The plan is for both PC and console services to launch later this year.

"The powerhouse company we are creating will set the agenda for the online game industry," said Catapult's President Adam Grosser. The competition, however, was quick to respond. "I have to assume that they were in trouble or they wouldn't have done it," commented Daniel Goldman, founder and chairman of T.E.N. (the Total Entertainment Network). "We're still the only service which I believe has a number of exclusives on the PC side," he continued, "and we also have over 20,000 people signed up whereas they have something in the neighbourhood of 4,000."

Once the technology is in place, the war will become one of pricing and content. TEN already boasts a number of "exclusives" (notably *Duke Nuke'm 3D* and *Dark Sun*), while Mpath is known to have deals with Id to offer *Quake*, and to have the backing of Blizzard, developers of

Will *Warcraft II* also make an appearance on MPlayer?

Warcraft II. Catapult is largely alone in the console world, although it's expected both Sony and Nintendo will match Sega's NetLink initiative, and possibly set up some form of proprietory gaming network.

Of course, these are still the early days in the world of online gaming, as all this restructuring and positioning indicates. Indeed, within days of this merger it was announced that America OnLine has purchased the ImagiNation Network, with a view to incorporating its games and subscriber base into its own service.

Whether or not any full-scale, multiplayer online gaming service — from any company — will be up and running before 1997 is still unclear. But this move has to be a step in the right direction.

Quake should be one of the service's premier titles — not bad

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The technological and — yes — *sociological* problems of online gaming

Multiplayer gaming is really not new. Even the very first computer game, *Spacewar!*, was a mutiplayer game, for between two to eight players. However, playing multiplayer games online is a very different proposition to having a group of friends hook up to a multi-tap at home, and it raises two unique kinds of problems:

The sociological problem
In essence, the sociology of multiplayer computer games has changed immensely. In the past, multiplayer gaming was a way to enhance and bring out various facets of our relationship with people we already knew — our friends. Now, online multiplayer gaming is being focused as a way to get to know strangers we may want to have a relationship with in the physical world.

This raises two important questions: First, is battling an unknown, unseen user name (say, john49132@aol.com) as rewarding as playing one of our friends? And then, how do we differentiate — in any meaningful way — between john49132@aol.com and, say, mbelinski@police.net.gov?

Industry thought-leaders believe the solution is to attach some kind of persona to the sterile user name of john49132@aol.com. So how do you do this? There is much debate on this topic, but most people believe that hearing the voice, seeing the face, experiencing how that person acts — and maybe even checking out his or her website — are basic factors.

In the meantime, people (for better or for worse) will use whatever information they have to make judgments, and this means the e-mail address. (For experienced online users, John49132@aol.com probably already conjures up the impression of a much different "persona" to that of mbelinski@police.net.gov).

The technology problem
Old-style multiplayer gaming typically took place with everyone in the same room, either plugged into the same computer (like a two-player Genesis game), or over a LAN. But now, people want to play opponents in different places, via their PC attached to a network.

So what is this network that is attaching everyone? Well ideally, it looks like Ethernet TCP/IP. In reality, it's a convoluted mix of devices, modems, switches, routers, and line cards that we call our telecommunications infrastructure. This tangled nature is problematic for those who want to play fast action games across it, because each device, modem, switch, router, and line card involves a change of medium for the information traveling through it.

Every change in medium involves parking the information packet for a while so that we don't overwhelm the communications device it is about to flow through. This is called buffering, and it introduces a time delay which is called latency. Our telecommunications infrastructure (which includes your modem, the local phone company's switch, the modem banks for your service provider, and so on) has a lot of buffering because of the amount of devices that your information must pass through to be properly routed.

When our fast action game wants to send an information packet to the other player(s) indicating that we've successfully blown up their vehicle, or dodged their missile, this is a problem. So, what do we do about latency and fast action games? There are at least three methods being pursued by leading developers: One, create a special-purpose priority fast-path through the telecommunications system; Two, use dead-reckoning packet technology to guesstimate where your opponents/teammates are; Three, use a hybrid client/object server model to shift critical event decisions to the machine of the user that will be impacted.

Creating a special-purpose fast-path means putting together a high-priority route for packets of information that run on an almost dedicated network. This means having the highest priority on some switches and routers and also bypassing a major portion of the telecommunications infrastructure by using dedicated lines. MPath and some Internet service providers are pursuing this route. The challenge is that this method involves dedicating expensive hardware to these packets and could introduce significant service fees for the consumer.

Dead-reckoning technology means that your computer tries to guess the location and status of your opponents and teammates by knowing their velocity, acceleration, and direction information — and then working out where everyone probably is. This information only needs to be updated when there is a change in velocity or acceleration — so it's fine for something like, say, the flight path of a Jumbo Jet, but it's not ideal for fast action games like *Quake* in which there are changes in direction and speed many times a second.

A hybrid client/object server model builds on the two previous methods by shifting the processing of events (for example, will your missile blow up my plane? Or will it miss?) by moving them to the computer of the user that will be impacted. The challenge with this method is finding the right software architecture that will not derail the game design process.

So when will all this be implemented into a game service that we can play on? We're still just experimenting, but if we can resolve these nagging sociological and technological questions, then expect a mass market service probably sometime in 1998.

> ### Online multiplayer gaming is being focused as a way to get to know strangers

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breaking

The business news that affects the games you play

movers & shakers

by **Christian Svensson**

NINTENDO GOES TO WAR

N E W S L I N E : An aggressive Nintendo has released its annual report including chairman's statement and financial results. Nintendo's sales for the year ending March 31st 1996 were $3.3 billion compared with $3.9 billion in 1995. Despite the shortfall, profits were up from $393 million to $565 million.

The 44 percent increase was put down to a favorable balance between the dollar and the yen. In his annual statement, Hiroshi Yamauchi was extremely forthright concerning Nintendo and its competitors.

B O T T O M L I N E : Make no mistake. Nintendo is brimming with confidence. Mr. Yamauchi's statement basically accused rivals of producing shoddy games and aiming them at the wrong sector of the market. He highlighted areas where Nintendo's policies differed markedly from Sega's and Sony's, and set out — with some alacrity — to point out how Nintendo was right, and everyone else was wrong. Nintendo is normally a tad more polite than this. It bodes ill for everyone else.

3DO SLIPS BELOW $100

N E W S L I N E : Electronics Boutique has dropped the price of the 3DO Multiplayer to $99.

B O T T O M L I N E : Not so much bottomline as endoftheline. Nevertheless, most stores were re-ordering stock after just one weekend of the offer. Perhaps the Multiplayer has finally found its natural price-point....

PETER MOLYNEUX TO QUIT EA?

N E W S L I N E : Bullfrog chief Peter Molyneux, the famed-figure behind hits such a *Magic Carpet*, *Populous* and *Theme Park* is considering leaving Bullfrog and therefore parent company Electronic Arts . He will make a decision after completing *Dungeon Keeper*.

B O T T O M L I N E : For many in the non-suit-wearing sector of then industry, Molyneux is a touch-stone. The Bullfrog founder sold his company (and his own talents) to EA two years ago, but now appears disillusioned. Molyneux says he is tired of "corporate culture" and meeting overload and wants to concentrate on making games. In an era when large interests are snapping up bright developers, this news may help decide the shape of contracts.

3DO RENAISSANCE CONTINUES

N E W S L I N E : The 3DO Company has opened a new office in Redmond, Washington, and has grabbed Microsoft's erstwhile game chief to run the show. The Northwest office will concentrate solely on high-end MMX supported PC games.

MMX is a new CPU standard for Pentium that Intel is promoting to some extent as a specialized game-playing chip. Microsoft veteran Tony Garcia will head up the operation, having previously started Microsoft's entertainment business unit.

B O T T O M L I N E : The 3DO Company's change from humbled 32-bit hardware evangelist to software mover and shaker continues apace.

The 3DO Company's exclusive support of MMX is a little surprising. Perhaps it is felt that only enhanced hardware will be able to support 3DO's 64-bit software development. Or perhaps the company aims to exploit MMX's multimedia functionality in tandem with its own MPEG projects. Trip Hawkins commented: "We are dead serious about becoming an entertainment software force in the industry. We will attract the brightest talent in the industry." All Trip and Tony need do is deliver some decent games.

ID SLAMS SOFTWARE PIRATES

N E W S L I N E : A furious Id has branded thieves who stole and distributed full beta- copies of *Quake* as "losers" and "maggots." Full but unfinished copies of the game were recently stolen from Id's network and distributed freely on the Internet. Mike Wilson at Id told **Next Generation** "These guys are just maggots on the mucilaginous dung pile of life. These people are the reason that very few software developers can remain independent of large corporate ties. It doesn't hurt us so much, but it puts smaller guys out of business." He said that Id would pursue the matter.

B O T T O M L I N E : Meanwhile, in the first known action of its kind, the Software Publishers Association has filed a lawsuit against a person for illegal distribution of software on the Internet. The action was filed in Seattle against Max Butler who is alleged to have uploaded copyrighted software to a file transfer protocol (FTP) site for distribution across the Net.

The action has been filed on behalf of a trio of software interests and will open the doors to game companies wishing to protect their own interests. It's only a matter of time before trade body IDSA swoops on the crooks.

breaking

Gaming on the Internet

by Bernard Yee

Bernard Yee has contributed to USA Today and writes regularly for PC Gamer, PC Magazine, and has authored several books on gaming

The new online gaming powerhouse?

I was going to write a column on some online gaming something or other, but some big news crossed my desk; Mpath and Catapult merged. Mpath, in case you forgot, is one of the highly-anticipated online gaming services (the others being Total Entertainment Network, Engage, DWANGO, and ImagiNation Network) about to be rolled out.

Mpath showed off its

multiplayer *Command & Conquer* at E3, but CEO Paul Matteucci didn't even hint at the big news that was brewing. However, it seems that Mpath had some money to spend after a large investment by Segasoft, and — my guess here — some problems to solve. How would it distinguish itself from the other players? And, as INN's Dean Dibiase is always happy to point out, Mpath doesn't actually have any experience maintaining a network or any of the technical infrastructure required to keep game servers on line and customers happy.

So, as a result of the deal, Mpath gets Catapult's subscribers (between 10,000 and 50,000 of them), the wealth of experience garnered from Catapult's 16-bit X-Band project, and an entry into the world of console gaming. This last factor (getting into the console side of the business) especially makes sense, given SegaSoft's investment in Mpath, and the fact that Catapult designed Sega's NetLink modem, as well as running Sega's network in Japan. Beginning to see a pattern?

So what does Catapult get? Some financing; a new ally with which to fight the war ahead, and a no-brainer entry into the PC gaming business (Mpath's field of expertise). It had been rumored for a while that Catapult has been experiencing financial troubles, and this may have been a neat solution for the company.

So what does this mean for the online gamer? It means that console gamers are being viewed every bit as importantly as PC gamers by the online gaming companies in preparation for the war ahead. With Nintendo's ongoing online gaming trials in Japan, Sega's NetLink set to launch in the U.S., and SegaSoft's stated goal that "almost everything we

do will have an online component, [including] downloads, updates, and tournaments" it's clear that online gaming will be for everyone, and not just those armed with a PC.

Meanwhile, smaller companies

are gearing up their efforts too. MPGNet, which licensed its content to Microsoft's MSN, has recently fired the first salvo of what will undoubtedly turn into a price war: The first month of the service is $4.95, which includes a CD for the front end.

Showcase MPGNet runs on Windows 95, and you'll need a PPP or SLIP connection to the Web. Each month after that is an all-you-can-eat price for $9.95 per month. So for $4.95, you can get a taste of online gaming for a whole month with games (like the *Kingdom of Drakkar* role-playing fantasy) much better than *Neverwinter Nights* on AOL.

And while it hardly qualifies as small, Origin's *Ultima Online* project continues to pick up steam. Origin should be gearing up for another testing phase this fall, and it'll be accepting applicants for beta-testers — so check out its website for the latest info [http://www.ea.com/origin/english/ultima/uo/uo-apply.html]. The next round of testing requires $2 to cover shipping and handling of the beta CD, which contains both the game software and the terrain (which is supposedly a larger world than all the previous *Ultimas* put together — yes, its even bigger than Akallabeth).

And don't forget that Blizzard's upcoming battle.net will enable folks who play *Diablo* or *Starcraft* to go multiplayer without paying any additional fees. Yes, its free! Of course, its no substitute for the chat and smooth functionality of online game services, but it'll get you on for nothing more than your regular ISP fee. A bargain.

Activision is doing something similar with its *MechWarrior 2: Mercenaries* product, which will ship with drivers that enables network play over the Internet (no, these aren't Kali drivers).

And that's all for this month.

Feel free to mail me with queries: bernardy@pipeline.com. **ng**

breaking

Datebook

September

AMOA, the **Amusement and Music Operators Association**, will hold its annual event this year from Thursday to Saturday, September 26 to 28 in the Dallas Convention Center, Dallas, Texas. This event is not open to the public, but will show the newest arcade, redemption, VR games, and pinball machines, jukeboxes, etc. Please contact Fred Newton at AMOA, (312) 245-1021; or e-mail amoa@sba.com.

If your interests lean more toward the Internet, then come to **Online Games '96**, held Wednesday, September 18, in San Francisco, CA. Topics to be covered are online game markets, licensing web sites and services, Net game functionality, figuring how to charge per visit, games on online services, etc. To register or exhibit, please call (800) 488–4345. FAX (212) 780-6075, or e-mail mlester@jup.com.

Web Developer Canada '96 will happen from September 16 to 18 at the Vancouver Trade and Convention Center in Vancouver, British Columbia. This conference has less to do with games per say, but is ground heavily in what makes web sites successful. Online gamers and online development companies would benefit tremendously. Call (800) 632-5537 for info and to register. Open to the public.

October

The **7th Annual Fun Expo**, known as the layman's "fun center show" because of its focus on small- to medium-sized Family Entertainment Centers and Location-Based Entertainment Centers, will be held at the Sands' Expo and Convention Center, Las Vegas, NV from October 9 to 12. Open to trade only, not to the public. There will be more than 1,000 booths, amusement equipment, virtual reality equipment, arcade and redemption games, motion simulators, and more than 40 seminars on running FECs, and LBECs. Call Rich Regan for booth information or Bailey Beeken for any other questions about hotels (Treasure Island, Mirage, and Harrah's) or attending at (914) 993-9200, or FAX at (914) 993-9210; or check out their web site at funexpo@aol.com.

November

IAPPA, the **International Association of Amusements and Attractions**, is like a big arcade show except for the simulators, rides, and amusement attractions, for which it's famous. Closed to the public, it's held from November 20 to 23 in New Orleans, LA, at the New Orleans Convention Center. Call (703) 836-4800 for more info.

Comdex will take place in Las Vegas, Nevada, Sunday through Thursday, November 17 to 21, and is open to the public. For more information, please call (617) 449-6600.

December

Fall Internet World '96 will happen December 10 to 13 at the Javits Convention Center, NY, NY. Call Mecklermedia (203) 341-2855.

SHOW ORGANIZERS: If your show isn't listed here, well, that's because you haven't told us about it. Call (415) 468-4684, FAX information to (415) 468-4686, or send details to DATEBOOK, **Next Generation**. 150 North Hill Drive, Brisbane, CA 94005.

GADGET

## Peripherals, accessories, gizmos, add-ons, thingies, and stuff

GXE1395
Price: $349
Manufacturer: Samsung
System: All Consoles
Samsung is calling the GX1395 "the world's first personal video game monitor," and that about sums it up. It's built around a 13" monitor with a 181 channel tuner, and comes with a 21 watt surround sound speaker system with a 15 watt subwoofer. The base swivels and tilts for your convenience, and it folds up nice and neat when you're not using it. Multiple A/V jacks insure you can connect any game system and still keep it hooked to cable or antenna. It's a terrific little package, and if it takes off, Samsung is planning larger-screened version for next year. Sure to be a fixture in dorm rooms across the nation.
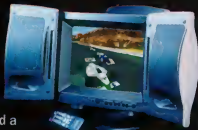
SpaceOrb 360
Price: $99
Manufacturer: Spacetec
System: PC

The new wave of 3D games requires a new wave of 3D controllers - or at least that's what Spacetec thinks. The large ball is held between the thumb and forefinger, and moves through all six degrees of freedom, plus it can be twisted. When used with *Duke Nukem*, for example, pushing the ball forward causes you to move forward. Moving left or right causes you to strafe, while twisting it makes you look up and down. It takes some getting used to, but man, great stuff — it makes circle-strafing a breeze. The buttons, especially the two shoulder buttons, are a little awkward, but since the ball controller takes over so many functions, you seldom need them. Kiss that mouse-and-keyboard combination good-bye.

GrIP
Price: $79.95
Manufacturer: Gravis
System: PC
Here's a doodad for every PC gamer who's seen four-person sports games on console and wished they could do the same. The GrIP supports up to four Gravis game pads and is designed for use under Win95 (DOS drivers are also provided, but there is no support for button programming under DOS). On the down side, only two games currently support the system — EA Sports' *NHL '96* and *FIFA '96* — but more are on the way.

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NEXT GENERATION

THE BIGGEST AND BADDEST 16-BIT MK EVER is on the street. 5 new backgrounds. 8 new playable characters including Kitana, Jade, Scorpion

and Reptile from MK2. 3 modes of play. Selectable ending sequences.
And the ability to play as Rain and Noob Saibot. Watch your back.

Give your eyes

Absolute 3D graphics. You want them to scream.

You want them to be real. You want them to be S3d.™

The What: The S3d acceleration chip makes games,

Internet 3D, and all Windows applications dance. It lives on

something to scream about.

accelerator boards and computer systems carrying

the S3d logo. It revs all 3D and 2D games and software,

but when you match S3d logo hardware with S3d logo

software, the results are extreme: the best 2D graphics,

the most realistic 3D, and an affordable price.

The Where: Seek S3d on computer systems like

Compaq,® Dell,® Hewlett Packard,® and Packard Bell.®

Find S3d on accelerator boards from Diamond Multimedia,®

Number Nine,® and STB.® Demand S3d on games from

Interplay,® Activision,® Eidos,® Mindscape® and on titles like

Descent II,™ MechWarrior 2,™ Confirmed Kill,™ and MegaRace 2.™

The Why: Because you want 3D so real it screams.

Can **Apple** run with the **big guns?**

92	200%	2 3 4		200%
AMMO	HEALTH	5 6 7		ARMOR
		ARMS		

After years of meager initiatives and unfulfilled promises, Apple says that games are its "number one priority." Is this just marketing hype? Or can it really make the Mac a better game machine than the PC?

Apple, the seminal Silicon Valley success story, is a company that was founded on a hacker ethic that included games on a fundamental level. The company quickly became fearful of putting off its important corporate customers, however, by labeling its computers as "toys." As a result, since 1984 and the introduction of Macintosh — and despite the occasional great game appearing on the Mac platform — Apple's support for gamers and game developers has been virtually nil. Consequently, the gaming revolution has largely passed Apple by, and consoles or the Microsoft/Intel brand of personal computing have become the gameplaying platform of choice for U.S. gamers.

But Apple's gaming strategy (or lack of one) actually goes further than this, back to the days of the Apple III.

The Apple II, elegantly designed by Steve Wozniak and released in 1977, was a total hacker's machine. It was 100% open, and ready for games to be programmed by anyone who picked it up,

with expansion slots galore and a nifty version of BASIC in the ROMs (it was introduced, of course, before the dawn of the prepackaged software industry).

According to Wozniak, quoted in a 1986 issue of *CALL-A.P.P.L.E.* magazine, "A lot of features of the Apple II went in because I had designed the game *Breakout* for Atari. I had designed it in hardware [and] I wanted to write it in software. So a lot of these features that really made the Apple II stand out in its day came from a game, and the fun features [like color, and the speaker] that were built in were only to do one pet project, which was to program a BASIC version of *Breakout*."

The Apple II ended up being a consummate game machine, and an unbelievably successful all-around home computer. In 1979, during (or even before) what many consider the heyday of the Apple II, though, Apple had already decided that its future was not in home computing, but in business. To that end, the Apple III was designed (and released in 1980) as an all business, no fun — and definitely not a game — machine.

photography: Mark Koehler

The Apple III was a dismal failure, so Apple went back to the drawing board, and came up with another expensive failure, Lisa in 1983, and then finally the Macintosh in 1984. Both machines were designed strictly for business, and while the Mac introduced consumers to an enormous number of new innovations which are now commonplace, like WYSIWYG (What You See Is What You Get) screens, ease-of-use, the graphic user interface, the mouse, fonts, high-resolution displays, the 3.5" disk, and laser printers, gaming was not on the itinerary.

"Apple has a strange history with games," says Ben Calica, Apple's senior product manager for Game Technologies. "When the Mac first came out, the game people were saying 'Excellent graphics, great sound, this would be very cool for games.' The general reaction on the PC side of the world, however, was to kind of point at the Mac and laugh and say 'ha ha, this is a toy.'"

The result? "Apple as a corporation had the reasonably childish response of saying 'No, no, it's not a toy, we swear!' and they did everything possible to prove that the Mac was a business computer."

As a result, game companies found little support from Apple when trying to develop games for the system. "They weren't so snobby as to not talk to us," says Bill Dugan, the Mac high priest at InterPlay's MacPlay division. "Apple had us listed as a developer, and we were able to buy cheap hardware [through the developer discount program], but Apple had no thought of games in their original marketing plan."

A small group of dedicated companies, like Silicon Beach (*Enchanted Sceptres*), Delta Tao (*Spaceward Ho!*), Changeling (*Peg Leg*), Cassady & Greene (*Crystal Quest,*

Glider), and Ambrosia (*Maelstrom, Apeiron*), created games that had a distinctly "Mac" look and feel, and they found great acceptance. Over the past few years, others like Graphic Simulations (*F/A-18 Hornet*) and Bungie (*Marathon*), have created Mac-only titles which would be stand-outs on any gaming platform.

But while the Mac's exceptionally structured OS and GUI are great for making business and publishing packages easy to use, it is very hard to write directly to the hardware, something most games require if the graphics are going to impress in any way. And the early Macintoshes' monochrome screens didn't lend themselves to games much either.

Still, the Mac has always had potential as a game machine. With a standard 640x480 screen, graphic quality on the Mac is unsurpassed. Because the OS and hardware are standardized, there is no need to write to dozens of potential configurations, and tech support to gamers having trouble running the games —

Poser, from Fractal Design, enables easy creation of 3D human-like figures on the Mac. Using QuickTime 3D, it's now on PCs

high-quality graphics, stayed away, the titles sank like rocks, and so did the reputation of the Mac as a game machine. A couple of larger PC-oriented publishers, InterPlay and LucasArts, have discovered a hidden money-maker in the Mac (the secret: make the games quality conversions, not cheap ports — and don't forget the marketing budget), but most other companies who tested the waters (like New World Computing and EA) quickly got scared away. "Companies would put games out a year later on the Mac, with blocky non-Mac graphics and with a nonstandard

The Apple II, elegantly designed by Steve Wozniak and released in 1977, was a hackers machine... 100% open and ready for games to be programmed
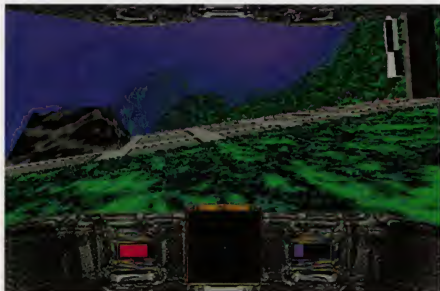
responsible for more software returns than any other source on the PC — is largely a nonissue on the Mac.

Even after color screens became standard, most PC ports to the Mac performed terribly, mainly because the resolution of a VGA PC game —

Virtually's *ChaosVR,* a shooter like *Fury*, uses the RISC PowerPC to achieve 30 fps on a 120 MHz 604 at 640x480, without extra hardware acceleration

320x240, looks terrible on the Mac's standard Super VGA quality 640x480 screen. Mac users, accustomed to

interface and surprise of surprises, they didn't sell very well," says Calica. "As a result, there are still a bunch of companies which still feel that Macintosh people just don't buy games, which is, in fact, absolutely not true."

So what caused a change in Apple's attitude? In the early '90s, when it became clear that the next growth market in the computing industry would be a (second) home-computing revolution, Apple took some initial, halting steps toward encouraging game publishing on the Mac. A position of "game evangelist" was established within Apple in '91, to encourage developers to port games to the Mac. But it wasn't until the PowerPC came online that things started to take off for Apple.

"Over the last three years, there's been an underground effort that led Apple to directly support games," says Calica. To encourage developer support for its new RISC-based PowerPC Macs,

Game Sprockets: Killer APIs?

Created as a response to Microsoft's DirectX gaming initiative, Apple's Game Sprockets make creating games on the Mac easier than ever before

Apple Game Sprockets is an SDK (software development kit) that is available, royalty-free, from Apple. It contains six APIs (application program interfaces) designed to make development of games easier. "Some of Sprockets are 'duh-ware,'" says Ben Calica. "Meaning they're things we should have had years ago, like an easy way to hide the menu bar, write directly to the screen, etc.. And some of them are 'cool-ware.'"

The sprockets are easily extensible libraries of C code, and should make it easier for game programmers who don't want to memorize the *Inside Macintosh* series of technical books.

The sprockets, in general, compare directly to Microsoft's DirectX APIs, with a couple of differences: First, they are more customizable than DirectX, particularly QuickDraw3D Rave, Second, in some cases they provide greater functionality.

We expect that the presence of these sprockets will make conversion of Win95 titles using DirectX to the Mac far easier.

NetSprocket: This provides a standard user interface for playing a game across a network. Dialogues and underlying code for configuration, joining and hosting a game are included. The API uses Apple's Open Transport for TCP/IP, AppleTalk, and modem access. The Net Sprocket uses a client/server topology and has an extremely small overhead.

SoundSprocket: This sprocket standardizes traditional sound functions, but also provides support for killer 3D sound capabilities. For 3D sound, the location of the listener and each sound channel is given a specific position as well as velocity vectors in a virtual audio space, which dynamically changes to create the illusion of spatiality and movement. The sprocket uses the PowerPC to do signal processing, to simulate the Doppler Effect, distance attenuation, echoes, and spatial positioning. The 3D sound is integrated with camera position in QuickDraw 3D.

DrawSprocket: A sprocket that enables double and triple buffering on the Mac for smooth graphics display. The sprocket automatically uses the best hardware solution for a given Mac — either true buffering, page-flipping, memory copies, or through the standard CopyBits function call. DrawSprocket also enables an on-the-fly switch of monitor resolution and color depth.

SpeechSprocket:
SpeechSprocket uses Apple's PlainTalk technology to enable speech recognition. Spoken words can be used to trigger commands or run Macros. Though speech input does not work well for single words (like "fire"), it works well for longer phrases (like "select BFG,"). The speech recognition is voice independent.

QuickDraw 3D Rave: This provides a hardware abstraction layer for near-direct access to 3D graphics acceleration hardware; it provides 3D acceleration in software if no hardware is present. Rave also enables the plug-in of custom rendering technologies. Rave is cross-platform compatible with Win95.

InputSprocket: This provides support for mouse, keyboard, and analog or digital input devices such as joysticks. It also provides a standard dialog box for input devices.

41

Research and Development building 1 at the Apple corporate headquarters in Cupertino, CA. Apple spends a significantly larger portion of its income on R&D than most high-tech companies

First, Microsoft announced the DirectX suite of APIs for Windows 95 game development. "In this one case, it took Microsoft doing it for Apple Corporation to say, 'OK, maybe we've not been real smart in terms of games,'" says Calica. Then, a number of internal and external studies commissioned by Apple showed that although games are fourth in stated reason for purchasing a system, they end up being the first *actual* use, and also that they are the number one category of software in terms of actual dollars spent at retail. "I don't think on the surface people make a purchase decision based on playing games," argued Calica. "But let's face it, if a month later they're using their new machine to play games more than any other use, don't tell me games weren't in the back of their minds when they were deciding which machine to buy."

Apple's upper management agreed. And if people regard gameplaying as an important factor in deciding what kind of computer to buy, then Apple needs to make sure that the Mac stacks up as a game machine. "It has been a long process in convincing management that this is something to take seriously," conceded Calica. "But they take it seriously now. They see it as a big business issue and, as a result, the commitment is there."

So now that the commitment to support games is there on the corporate level, what do Calica and the rest of the "gaming underground" at Apple intend to do with it? What can they provide developers? What's their strategy?

"Apple's strategy for games is to make sure that the coolest titles are on the Mac," says Mark Gavini, Apple's Macintosh game evangelist. "And if it's a conversion

Apple started having programming "kitchens," where the company would bring in developers and match them with Apple engineers who would demonstrate the best way to get the most power out

Interplay and LucasArts have discovered a hidden money-maker in games for the Mac

of the new chip. "It didn't have anything to do with games initially, but it happened that the engineers really understood the basic nature of the system, and they really understood the PowerPC... and they loved games," explains Calica. "Motorola really wanted to show off what the PowerPC could do, and games were a great way to do that — at least that was the rationalization that was used. The bottom line was that a whole bunch of people wanted to see cool games, so you'd get five engineers and 10 of the best game developers together and sit in some hotel room for three days just cranking out code. They'd tweak the hell out of things. And it turned out that the PowerPC is a great game chip."

Other changes in the industry, notably the rise of 3D games, of which graphics are platform-independent (that is, the games will render to the highest res available) also made Mac development

more appealing. "It was hard for us to justify saying, 'Look, we're only going to represent 10% to 20% of your sales, but it would be really good if you completely redid your graphics so they are up to Mac standards,' but it was really easy to go say, 'Look, so long as you're going to make this 3D rendered game, let's make sure it renders really well,'" continues Calica.

"*Doom II* and *Dark Forces* came in to the same kitchen. Going in, they were getting about 80% of the performance they expected, and coming out they had around 120%. If you look at *Doom II* on every platform it's been released on, the Mac version has the highest resolution and highest screen size. That's because of the PowerPC. It rules as a game chip. That's why Sega is using it as the base chip for *Virtua Fighter 3*."
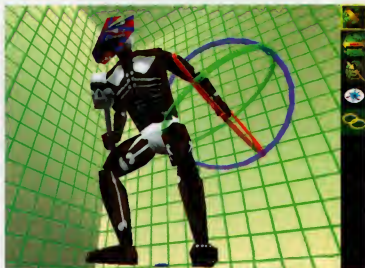
Still, the single

game evangelist and game kitchens, to a mega corporation of Apple's size, represented practically no effort. It took the three "Ms" to really develop a commitment: money, marketshare, and Microsoft.

Bungie expertly used QuickDraw 3D to build tools for games. According to the company, QuickDraw 3D has cut weeks from tools creation time, and months from product release times

from an existing Windows game, we want it to look best on the Mac."

To continue to have strong sales in the home (and despite the rumors of Apple's imminent demise, the company continues to sell more machines every year), Apple needs games. But in an interesting concession, the company is not following the console model of attempting to attain exclusive titles.

"I'm not going to delude myself into thinking I can convince companies to do a lot of Mac-only titles," says Gavini. "If you look at the size of the market, big companies are not going to ignore the Windows side of things, but I

don't want a computer buyer to be able to say, 'Well, I should buy the Wintel system because all the cool games are there.' I want to show them that the same cool games exist on the Mac side."

So what can Apple offer developers? Money. Porting a game is fairly cheap, but it can offer a good return, especially in the less crowded Mac market where titles have a longer shelf life, almost no technical support calls (a single tech support call can cost the company anything up to $20 or $30 — a cost often greater than the margin of profit made on selling the game in the first place), and a standardized architecture for which to develop.

"In many ways the Mac is as close as

you can get to being a 'console' PC," says Gavini. "You don't have to worry about 18 billion different sound cards, weird SCSI cards, or what IDE card it has."

Graphics quality was the main reason most PC ports failed on the Mac. With 3D graphics, and the proliferation of SVGA games, PCs are now at graphic parity with the Mac, which increases their chances for success in the market. A simultaneous release on Mac and PC (which provides the additional benefit of both the PC and Mac marketing pushes helping each other) increases the chances for success even more. How easy has it been to convince developers? "It makes it easier when we can point to sales figures

PowerPC vs Pentium MMX

Despite the hype over the graphic speed of Intel's new MMX CPU for the PC, the RISC architecture of the Motorola's PowerPC CPU gives Apple Macs the 3D edge

The heart of the Power Mac is Motorola's PowerPC chip. It's based on RISC (Reduced Instruction Set Computing) technology and can be contrasted with the CISC (Complex Instruction Set Computing) Pentium chip found in Win95-based PCs.

MMX is a new version of the Pentium (586) from Intel, which provides 57 new instructions, and promises to vastly improve multimedia performance.

This sounds great, until you realize that the multimedia performance MMX enhances most is video processing. Unfortunately, most gamers care more about the acceleration of 3D data than movies (which tend to get skipped).

The biggest feature in the MMX instruction set is SIMD (Single Instruction, Multiple Data), which enables a single instruction to operate on multiple data at once. There are also eight additional 64-bit MMX registers — but they sit on top of the Pentium's Floating Point registers, meaning Floating Point and MMX instructions cannot be run simultaneously without the risk of corrupting one or the other. There are four new data types in MMX and all the MMX instructions are single-cycle, so that they run very efficiently by the processor. Intel claims speed improvements over non-MMX Pentiums of between 40% (MPEG-1 video applications), and 300% (Image processing),

with speech recognition and video-conferencing falling somewhere between.

Because of the overlaying of the MMX registers and the FPU registers, however, 3D applications, which rely heavily on floating point operations, will be severely adversely affected when trying to use MMX functionality at the same time. So forget about super fast video textures in your 3D worlds using MMX.

MMX-enabled programs will not be compatible with previous generations of the Pentium chip, requiring an upgrade; a great way to sell hardware, but not a great way to ensure a large user base. Programming for SIMD is also allegedly very difficult, though Intel plans to distribute MMX enabled libraries for free.

In contrast, the PowerPC has four

times the Pentium's floating-point and fixed-point registers, and delivers the high floating-point performance of any consumer-level microprocessor. To gamers, that means that a 133 MHz Power Mac delivers far better 3D performance, all things equal, than a 133 MHz Pentium.

The Power PC also has a simpler design than the Pentium, fewer instructions (which are of a uniform size), and better memory management, which can result in higher performance.

MMX's performance on an application, not a benchmark, level, will probably be unable to deliver 300% improvements, since programs will call both MMX and non-MMX instructions, and its improvements will probably not impact players of 3D games. **ng**

PowerPC 604e™

MOTOROLA

of $100 million-plus per year of Macintosh games. People listen to stuff like that. You can go to the suits and say 'Look, money! Numbers!'"

In addition to approaching developers from a numbers angle, Apple has implemented a number of new technologies specifically aimed at game developers; namely the Game Sprockets series of APIs (see 41).

Other reasons to develop for the Macintosh? For one, (and maybe you better sit down, PC gamers), when it comes to the hottest 3D games, the Mac is flat-out a better platform than the PC. First, the 3D acceleration currently enjoyed by many Windows PCs is coming to the Mac. Not only are several top chip and board manufacturers planning drivers for QuickDraw 3D (not just for games, but for other 3D applications as well), but Apple will soon be announcing a new home Performa model that will have 3D acceleration on the motherboard.

Beyond that, though, there is the Macintosh CPU. Because it is a RISC chip (versus the Pentium's CISC architecture) the PowerPC is far better at doing the geometry necessary for 3D graphics. We're not talking about the rendering or drawing to the screen, we mean the actual 3D calculations. This is because the PowerPC has much more precise, floating-point math power than the Pentium. "What about Intel's MMX?" PC

Anark's *Galapagos* uses proprietary artificial life technologies (NG 12) and *ChaosVR*'s 3D engine to provide unprecedented gameplay and super high-res 3D graphics. It will ship on the Macintosh first

enthusiasts might ask. Well, if anything, Intel's MMX will do nothing to enhance 3D performance, and it may slow it down (see sidebar on p.43). And this can only help Apple's cause.

Apple will also soon start the first discussions with developers on something called the Common Game Format. This specification for online 3D games would enable a user playing a tank simulation (or even, say, a golf game) to play in the same virtual world as someone playing a flight sim, for instance. Imagine thousands of players in one virtual world, each having their own game experience, but each able to interact with one another, and you begin to get an idea of how cool the

Common Game Format spec could be. (And we want to be the first to do an Immelmann on a golf course, by the way.)

The Macintosh has always been known as a multimedia machine, and there are a number of multimedia technologies with which Apple is attempting to stimulate game

Wozniak's and Job's Apple I, despite being cobbled together on a piece of wood, actually has an extremely elegant circuit design

development. QuickTime VR (used to produce "3D" scenes similar to those found in *Zork Nemesis*) is getting a facelift, an API, and a significant reduction in price of its version 2.0 implementation.

QuickDraw 3D (Apple's highly extensible 3D system architecture) doesn't just enable high-end 3D and scientific packages, it also makes tool creation for 3D titles extremely fast (Bungie estimates that it has saved months in the development of the forthcoming *Free For All*). A modified version of the QuickDraw

Activision's *SpyCraft* was an almost simultaneous release on the Mac and the PC. In general, though, Activision waits to see if a product makes a profit on PC before beginning a port

Apple's 3D Architecture

QuickDraw 3D Architecture

User Interface

Input Arch.

Application

Modeling Geometry

Custom Geometries

Plug-In Shaders

Shaders

Rendering Interface

Interactive | Wireframe | **3RD Party** | 3RD Party Lib

QuickDraw 3D Rave

Mac OS | Win95/NT | Other OS

Core 1.0 Component

Extensible in 1.0

Extensible in 1.5

Extensible in 2.0

QuickDraw 3D enables game producers to create tools — and extremely fast 3D graphics routines

Q uickDraw 3D is a compete 3D architecture designed with, among other things, high-end 3D graphics and scientific applications in mind. Many developers will be interested in these higher level abilities when creating 3D development tools. Gamers, however, will care more about the low-level hardware abstraction level, QuickDraw 3D Rave, which enables fast access to 3D acceleration hardware, which should be on most Macintosh motherboards by the year 1998. Thanks to its extensible architecture, developers will be able to include custom rasterizers and renderers.

Beyond that, web-browser plug-ins are available for QuickDraw 3D, and the file type for the VRML 2.0 spec will be closely based on the file format for QuickDraw 3D, which may enable easy inclusion of 3D objects into VRML worlds.

This chart shows the architecture of QuickTime 3D technology, from version 1.0 to 2.0, and shows which elements are extensible by third parties — something not allowed in the higher level Direct3D

3D file type, 3DMF, is being used in version 2.0 of the VRML spec.

QuickTime itself, in its 2.5 revision, now has the capability to accept QuickDraw 3D layers for playback, in addition, of course, to sprites, movies, sounds, and MIDI information (there are tons of new instruments, licensed from Roland in 2.5). Apple is working toward corralling all these multimedia capabilities (most of which are cross-platform compatible) into a new standard, The QuickTime Media Layer, which will let people work with all of this technology together. To end-users, of course, it's transparent — they'll just enjoy seeing 3D objects with movies playing on their faces rotating inside other movies with wonderfully scored MIDI soundtracks.

And of course, it's all viewable through the Internet. Netscape has selected QuickTime as the standard plug-in for movies, and there is a 3DMF plug-in for viewing 3D files on web sites. Although

the mind may boggle at the potential number of realtime, online, multiplayer derivations of *Myst* that could be created and played using Apple's technology, the developers who aren't excited about these multimedia technology possibilities are probably the same ones dismissing the Internet as a fad. It may not be commercially feasible, or even advisable at this time, but the integration of multimedia and online technology itself is essentially very cool.

Apple also provides

support to developers in the form of its "game kitchens," and since Apple has flatly stated that it will never develop game software of its own, developers don't need to worry about their technology ending up in a first-party game. (Nor do developers need to worry about Apple releasing a "Mario" and eclipsing all third-party games.) Apple also provides comarketing dollars and free PR for games that it thinks

show off the Mac's capabilities well.

Developer reaction to Apple's new game strategy, particularly the Apple Game Sprockets, has been overwhelmingly positive, among the developers with whom we spoke.

"We took what existed in the DOS version of *Command & Conquer*, and then rewrote all the screen handling logic to deal with a playing area which is four times bigger — you actually see more of the world in game maps," says Steve Wetherill, director of R&D at Westwood. "This posed a problem initially as running in high-res means that the CPU has to work much harder. However, after incorporating Draw Sprockets we found that the performance boost was more than enough to compensate."

Bungie, one of the biggest Mac-first developers, has whole-heartedly embraced Sprockets in its new title *Free For All* (working title). The tools were written using QuickDraw 3D, and the game will

support Rave on the Mac and PC.

Wirehead Systems, which is doing the Mac and PC versions of *VR Baseball* for VR Sports, is using Rave for both versions of the software, and managed to get a Rave graphics test running on Windows by changing only three lines of code. "NetSprocket is just unbelievably easy to use, compared to the old Apple programming method. You don't have to worry about anything," says Tom Utiger, project manager at Wirehead.

The game kitchens are also popular, explains Utiger. "If you're Sega or Sony, you have a big stake in your games being the best games, so there's always this sort of tension — 'how much do we tell the developers?' Apple has no incentive to do that, so there's a nice dissemination of information at the kitchens. You have access to the engineers and you can just

Star Fleet Academy **will ship simultaneously on both the Mac and the PC, which will enable InterPlay to leverage its marketing dollars across both computer platforms**

get stuff fixed — 'tell me about the InputSprocket,' and in no more than about two hours it's working."

One place where developer
reaction wasn't so positive was the issue of comarketing and PR support from Apple. "When we visited Apple, we asked what incentive they could offer to do the Mac version of our game first, or even as an exclusive," says a director of a small Mac development house. "Their answer was essentially, 'Integrate our Game Sprockets and if the title's good, we'll spread the word,' but they gave no guarantees. Console companies like Sega and Sony are pushing really hard to get as many novel and exclusive titles as possible, games that really differentiate the platform. Our impression is that Apple isn't too concerned about exclusives or early Mac-first titles, which, in our opinion, is what they need to differentiate themselves," he added. The developer concludes: "The Game Sprockets seem to be useful, but that's besides the point. Unlike DOS, the problem of the Mac gaming scene was never really technology. All in all, we feel Apple's efforts go into developing and hyping their technology, but they should be providing the incentives developers need for committing to a platform that has smaller sales."

So does Apple have a responsibility to help these small developers out with cash incentives and concrete support? "I don't know if we have a responsibility, but we'd like to," says Ben Calica. "I don't want anyone to fall through the cracks. Do we buy pages of advertising and divide the cost? I can't say anything for sure, but watch this space. We're trying to loosen the purse strings."

So is this the beginning of
something big? Will Apple's new commitment to games pay off? Does **Next Generation** see the Mac becoming a dominant game platform? No. But we do expect to see more Mac development, and a trend toward simultaneous release of titles on Mac and PC. Certainly, most A-list titles released in 1997 will eventually be available on Mac, and they may, in fact, be "better" than the PC originals. But then again, this may have as much to do with the development team getting a second bite at the cherry, as any Apple hardware or tool superiority.

Either way, more than $100 million in Mac game software was sold last year, and

companies that release games "the right way" on the Macintosh tended to do well. This will undoubtedly continue, and with the introduction of Sprockets, releasing a game Apple's preferred way (with high quality 3D graphics), has become far easier. Creating a quality port should not be a problem for large- and mid-size developers. For small developers, the Mac offers a chance to be a big fish in a little pond and get exposure that is perhaps not possible in the PC world.

Next Generation also feels that while the technology is present for a "killer app" to appear first (and perhaps exclusively) on the Mac, the lack of effort on the part of the evangelism group to secure and promote Mac-first or Mac-exclusive titles is worrying.

But despite its inauspicious beginnings, the Mac is both a good development and delivery platform for games. We don't expect Apple to steal the mantle of premiere platform in games anymore than we expect people to begin to use MS-DOS machines for desktop publishing, but ultimately we are excited by the possibilities offered by Mac gaming. Essentially, it all comes down to how important Apple believes games are to its continued success.

The good news for gameplayers is that, according to Apple's Bill Dugan, "They're critical." **ng**

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An Interview with Satjiv Chahil

So how serious is Apple about its new gaming initiative? **Next Generation** spoke with Satjiv Chahil, Apple's senior vice president of worldwide corporate marketing, about Macs, marketshare, and — of course — its newly revitalized worldwide gaming strategy.

NG: So why has Apple become so excited about games all of a sudden?
Satjiv: This is not something that we're just doing for the sake of "being there," but to make a profitable business, and to serve our customers and developers.

I'd like to correct the many misconceptions people may have that we are getting out of the home consumer space. We are definitely interested in the home consumer market. And in the home consumer market, what do people buying

computers look for? The answer is entertainment — and that means games. That's the primary use of computers, even though, initially, consumers may say the interest is for learning or other reasons. So we are totally aware of what is generating the sales within the consumer markets. And so our decision to concentrate on games is a business strategy to get Apple a reasonable share and profitability in that market.

NG: But information about how and why people buy computers has been available since before the launch of the Mac. So why has Apple waited 12 years to start promoting games?
Satjiv: In the past, we were always sort of embarrassed to have the Mac be referred to as a "toy" computer or as a game machine in any way. We feared that any association with games would make us look like not the proper corporate

computer. So we went in the reverse direction and even tried to avoid any associations with games.

We always had game developers on the Mac without us wooing them, but around the time that CD-ROM started to take off, the [anti-game] attitude at Apple started to change.
NG: So when did Apple change its mind?
Satjiv: In 1993. The first step was when Apple went public and said, "We'll ship 1 million CD-ROM players." We launched our authoring solutions with Macromedia, and so on, and when the numbers fell out in year one, we found that two-thirds of all multimedia authoring was done on Apple systems.
NG: But the "multimedia authoring" that you refer to isn't necessarily for games...
Satjiv: Of course, but it showed that developers prefer Apple as a development platform. The importance of games really

Satjiv Chahil's office at Apple's headquarters has an impressive view of the Cupertino hills. Is this the perfect environment from which to plan Apple's serious entry into the gaming market?

hit us as sales in the home market were going past those in the business market.

We saw that games were affecting market share and profitability. So, last year [in 1995] we said, "Hey, let's get serious — games are a serious business."

NG: Can the Mac ever overtake the PC as the game platform of choice?
Satjiv: Our goal may not be to overtake, but to have the cream of the market.

I'll give you an example. We opened a studio with [*Hitch Hiker's Guide to the*

fuzzy and grow schizophrenic, we just lose everywhere.
NG: So in the larger Apple business plan, how important is this game initiative?
Satjiv: Very important.
NG: Is it Apple's single biggest project right now?
Satjiv: On the home consumer side, we have two main thrusts right now: One is learning in the home, the other is games.
NG: Does Apple have the marketing muscle to change peoples' perception that a Mac ain't the machine to buy if you want to play games?
Satjiv: You're right, most consumers don't view the Macintosh as the premiere gaming platform.

But we're not going to change this perception with any of our marketing muscle. The change comes from new game developers coming to the Macintosh for the first time, or existing Mac game developers using the technologies that we're giving to them to provide the best possible games on the Macintosh.

Then as gaming magazines such as **Next Generation** start to review titles, if they stop to say that the Mac version is the best version, then the message will start to get out.
NG: But this won't happen without Apple getting the ball rolling. Without direct Apple intervention, you're stuck on the wrong side of a "chicken-and-egg" syndrome: Game developers won't invest the two years of time and the millions of dollars necessary to make a killer Mac

"When Apple sets its sights on some place and lines up everything, we deliver. When we stay fuzzy and schizophrenic, we just lose"

NG: So, what are your specific goals in the game market?
Satjiv: We're just in the process of discussing this, and right now I'm not in the position to give you any precise numbers or information.
NG: So let's talk more abstractly. As a starting point for your game effort, would it be safe to say that you're aiming to have at least half of the PC's best titles available on the Macintosh?
Satjiv: Absolutely. That's exactly my mandate. I would like to get the top 10% to 15% of games onto the Mac, at the very least. We've got to focus on getting the best games on our platform. And if the top 10 is a starting point, I want to know the plans for when we get to the top 10 in every genre.

And we have new ideas about games and things. Look at our experiments with *Mission Impossible: The Web Adventure* — we had 26 million hits as of a few weeks ago.

Galaxy author] Douglas Adams, called Digital Village. He said to me, "I don't know what this 'Apple's only got 10% market share' fuss is about. Everybody I know and respect uses a Mac. So even if it's only 10%, it's got to be the top 10%."

So I said, "Douglas, thank you very much, I would like the top 20%." [laughs]

So we can target the top 20-25% of gamers, but that means I must have the top 10 titles. And, not only does that mean I must have the top 10 titles, but we must also be the game platform that the developer has the least hassles with.

For the developer there must be that proposition, and for the consumer there must be a great experience. We've got to go for both of those. But for us, to acknowledge that this is a serious market is the first move. If you look at our history, when Apple sets its sights on some place and lines up everything, then we are able to deliver that. When we become

Apple spent millions on building an impressive corporate headquarters in the 1980s. Of course, it was designed on Macintoshes

Greetings From:
Washington D.C.

game until there's a huge audience of Mac gamers demanding it. Conversely, there won't be a huge audience of Mac gamers until some great games come along.

Satjiv: With the realm of 3D, the nature of games has changed such that the majority of the game code is used to define a world [all the texture maps and 3D models] and only a small amount of the actual code is expressing this world on a particular platform.

This means that once you've completed your game on one platform, it's relatively easy to port it to another

you can see are the steps in the right direction. As I say to our management team, one advertisement ain't gonna buy us respect. People will see us, over a period of nine to 12 months, not just talking the talk, but walking the walk. And this will buy us respect.

NG: Are there enough Mac owners to support a thriving game market? Surely most game developers will shoot for the PC market first, and maybe, just maybe, the Mac market second.

Satjiv: Here's what I've always wrestled with. The perception is that the Mac has

our third parties in this marketplace. That's our relationship with the entire content industry, and it actually makes us more natural partners. If we can give them the best tools, and an environment to make money, then we make money — because more Macs are sold — and the marriage lasts. If, on the other hand, there's always this fear that the other guy will clean me out of my space at any time, and right now I am operating under the graces until the market gets big enough, then it's gone.

NG: But Sony, Sega, and Nintendo — in fact, all hardware platforms — use in-house games to start the ball rolling. *Virtua Fighter 2* and *Super Mario 64* attract gamers to the platform.

Sure, third parties then get a smaller proportion of the pie, but the pie is made a lot bigger — which benefits everyone. Why doesn't Apple follow the same plan, and drive the market forward?

Satjiv: The difference there is that whereas, say the Nintendo 64 is a brand new platform with no installed base, we have an installed base of 25 million already.

We are very, very hungry to get games out there. But, it's just not our charter to compete with developers. Microsoft has *Microsoft Home*, Microsoft controls the game platform on 'Wintel,' with their gaming SDK, and they also have a huge division dedicated to churning out titles.

Now I'm not going to say they have early access or anything like that, but if I was a developer, I would look at this with a somewhat jaundiced eye. **ng**

"We have a lot of strengths. Our brand name, for instance. It's easier to say, Apple's a cool game machine than to say that IBM is one"

platform — because you only have to reprogram just a small amount of the code. So, for example, of the best games from this last year, games like *Doom II*, or *Dark Forces*, for example, the best version was the Mac version.

NG: But merely porting games from the PC to the Macintosh attract die-hard gamers — you need great games released at the same time as the PC version, if not before.

And in the marketing war that you'll have to fight in to help accomplish this, can you compete with, say, Nintendo, which is spending about $50 million advertising just the first 500,000 Nintendo 64's in the U.S. alone?

Satjiv: No. But I can be clever. Take the *Mission: Impossible* campaign we did. The whole world thinks we spent $50 million. The truth? Paramount spent $50 million. We spent a lot less.

I have to do innovative, clever, targeted marketing that creates marketing multipliers. I would feel irresponsible to just throw $50 million behind 500,000 units. I'll work with people to do some comarketing things to figure out how I can reach a target audience.

We have a lot of strengths. Our brand name, for instance. It's easier to say, Apple's a cool game machine than to say "IBM is a cool game machine" or "Compaq's a cool game machine."

NG: And Apple is now keen to actively promote the Mac as a game machine?

Satjiv: Yes. There is a lot of introspection within the company, lots of reality setting, and lots of openness to doing business differently. But for now, all

an 8% market share, but the reality is that we represent more than 20% of all of multimedia computers. There are 25 million Macs out there. And we are much better to develop for! There are no tech support calls, we're easier (and now, with Sprockets, far easier) to develop for.

But nobody knows that. Game companies are doing their math on 8%, and that becomes a self-fulfilling prophecy. The business proposition is there for developers who want to make money.

NG: Apple has developed some very powerful APIs with which to potentially create some great games. And so why not use them yourselves to create great in-house games by Apple, for Apple?

Satjiv: We do not want to compete with

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Ms. Mary Johnson
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Give my love to that scrappy mutt, Ranger

John

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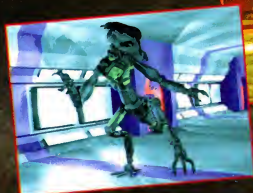
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"This game does not

According to the government it is preposterous to believe that such a game as AREA 51 exists. Concerning allegations of a top secret experiment gone bad, resulting in mutating alien creatures, authorities were unavailable for comment. Unidentified sources state AREA 51 has developed advanced technologies of mysterious nature: 3D rendered graphics, live digitized action and stop frame animation. All have been denied by high level officials. As for a home invasion of the #1 ARCADE GAME, the Pentagon asserts there is absolutely no documentation pertaining to this rumor.

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3. HERE'S ME WITH SOME OF THE GALS AT SEATTLE SLIM'S.

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Sony's long-awaited entry into the platform game arena. You've never experienced anything quite as sensational as this fully animated cartoon world coming to life. It's flooded with obstacles, enormous levels, unbelievable graphics, detailed real-time lighting, amazing music and sound effects. Packed full of solid gameplay, hidden bonus levels, secret pathways and fiendish traps, this is the "must-have" game of the year.

Money makes the games go round

Want to start your own videogame company? Need some cash? Then you need to enter the high-finance, high-risk, high-tech world of Silicon Valley's venture capitalists

Venture capitalists invest money in fledgling game companies. Often they'll invest up to $10 million, and rarely less than $1 million — these guys don't mess around, and for a minority stake in the operation, they'll give entrepreneurs with smart ideas the cash they need to make a fortune. The catches? One, they don't give their money to just anyone. Two, if you make it big, you take then along for the ride. And three, there's always someone who sits on the board of directors with a constant eye on the bottom line of your profit and loss accounts.

Given that in the world of big business the power lies wherever the money is, this affects the way the company does business and, as such, the money pouring into the coffers of high-tech start-ups today is shaping the future of computer games, whether directly or indirectly. From Silicon Graphics to 3DO, the world of gaming comes with strings

* * * * * * * * * * * *

Much like professional poker players, venture capitalists (VCs) evaluate risk and have the ability to weigh the odds very carefully. But at the end of the day, they like to gamble on hitting it big. However you distill the essence of the VCs' job, the financial community loves a winner, and where one VC goes, the others follow. As one VC told **Next Generation** over the course of a long lunch, "It's the herd mentality. It only takes one VC to jump on a project to open the floodgates. That's why they're all here." As he said this, he gestured out of the window of the Sundeck restaurant, a small, ordinary looking eatery in the heart of Silicon Valley, with a very small, but select clientele. Outside is a large, dark brown-stained wooden edifice with a staircase at the front, and a small courtyard in the middle. This is one of the 12 buildings that help to make up the offices of 3000 Sand Hill Road.

If, in the real estate business "location, location, location" is everything, then the Sundeck restaurant should win the mother of all real estate awards. It sits right in the middle of the most expensive office real estate in Silicon Valley. A 17-acre plot surrounded by a country club golf course to one side, and the I-280 highway on the other, the Sand Hill Road office complex is the heart of the computer

ng $pecial

attached, held in the hands of a coterie of venture capitalists.

If you have anything to do with high tech, electronics, or computer technology then you'll know about venture capitalists. If you want to be even more of an insider, you call them VCs. They're given the keys to truckloads of money by corporate pension funds, rich investors, investment banks, or any place with a pile of cash looking for high risk investments, and big pay-offs. The risks are enormous, but they're shrewdly calculated. When VCs back the right guy, they make more money than a small nation. When they lose, they lose millions, because they don't often invest unless there are seven digits involved. Like the game business, the VC business is driven by hits.

In Silicon Valley the largest cluster of VC firms are huddled around Sand Hill Road in Menlo Park. The Sand Hill Road companies represent one third of all venture capital in the United States.

Menlo Park is conveniently situated between the multimedia and advertising hub of San Francisco to the north, the engineering blocks surrounding San Jose in the south, and a hop, skip, and a jump from Stanford University. This community of MBAs and entrepreneurs is at the center

of the technology heartland of computing. The flow of capital to and from Sand Hill Road has helped to create the most influential businesses in the world today. As computers and intelligent electronic devices invade homes everywhere, the VC community is looking to "electronic entertainment products" (that's computer and video games to you and me) for their

Many say that by simply trying to make a fast buck, VCs only serve to destabilize the game industry

next booming ventures.

VC companies in Sand Hill Road like the Mayfield Fund, Kleiner Perkins, Comdisco, and Norwest boast investments in companies ranging from Silicon Graphics to Compaq. Their

resources range from a $100 to $750 million, and they employ a whole slew of personnel with sound financial skills, and the ability to spot winning businesses.

Companies like these have helped to create the technologies that are used in our PCs, game software, and consoles.

You might think that the game business is driven by creativity, which it is to a greater degree, but the barriers to entry get higher every day. *Wing Commander IV*, for example, cost as much as $10 million to produce, and the days of any big hit game costing less than $500,000 are numbered. The cost of distribution, marketing, and, of course, development for games are reaching Hollywood proportions. Another big problem problem is that games are becoming a victim of their own success. With so many titles to choose from there are very few outlets that can stock so many titles. The result of all this is that you need more money to make money.

One publisher, who wished to remain anonymous, categorized the dilemma of anyone wanting to get into the game business by saying, "Everything is sold on sale or return, so if you want to sell your game, you have to risk having all the unsold copies come back to you. Then, you have to deal with buyers at the big retail chains who understand nothing

business's paternal financial institutions. Here, amidst a huddle of small office buildings is the Sundeck restaurant, where investment bankers rub shoulders with modern day inventors and eat lunch with the financial whiz kids of the VC world.

Much like professional poker players, Venture Capitalists (VCs) evaluate risk and have the ability to weigh the odds very carefully

It's hard to imagine that such a relatively obscure plot of real estate can harbor nearly a third of the independent venture capital in the United States. Nearly $12 billion has been allocated by the occupants of Sand Hill Road to companies that have helped to turn Silicon Valley into the technology gold mine that it has become today. Billions of dollars more

will continue to flow, and the fate of new technologies will rest on how kindly the VCs of Sand Hill Road look upon them. If you think that this has little relevance to what kind of games you play, then take a closer look at the labels on the products

you use. Everything from Intel to Nintendo has some connection to this speck in the gaming universe.

This is where Trip Hawkins (interviewed on page 6) came to get Electronic Arts ready for the stratosphere of game publishing, and this is where he came when he needed a few million in loose change to unleash 3DO's plans for

world domination. People like Hawkins can dip into the well of money that exists here because they've proven themselves a good risk. They've made their bones with successful public companies that rake in millions of dollars of cash every year, and repay the VCs initial investments many times over. Yes, even 3DO has managed to make money for some of the people in Sand Hill Road. The story of how the area came to be such a magnet for the powerful and influential rests on the shoulders of one unlikely entrepreneur, Thomas W. Ford.

Ford was a real estate broker in the 1960s. While looking for a suitable property to house a client, the publisher of *Sunset* magazine, Ford came across the present Sand Hill Road site, and thought it would be perfect for them. When Ford's client ultimately backed out

60

about the titles. The guy could've been selling lingerie, and the game department is his big promotion. You end up paying the stores all kinds of marketing money to get them to put your product on the shelf. On top of all this, you have to make sure that people know your software is out there. Now, what developer can afford to do all that?"

The high costs and incalculable risks of getting game titles to market has made VCs wary of investing in pure title development. Even where they have done so in the past, with companies as diverse as Electronic Arts and Rocket Science, their initial desire was based on sound business management principles and technology. Not exactly the kind of thing that excites the average gameplayer.

One thing that is likely to set VC

hearts aflutter is any mention of new technology, or better yet, the Internet. As Stephen Ackroyd of Sony says, "If you know a developer who is seeking equity-based financing, a current trick, as I understand it, is to skew the company products and message toward the Internet." The Internet, online services, and online service providers are among the darlings of the investment community. Companies like Total Entertainment Network came about because of the intervention of VCs like Kleiner Perkins. The potential for TEN is huge because the Internet is potentially huge, end of story.

One thing that is likely to set VC hearts aflutter is any mention of new technology, or better yet, the Internet

Whether the games are compelling enough is your call. The fact remains the technology is making it possible for creative talent to lace their products with multiplayer functions that would not otherwise be possible.

Rocket Science, which started off as a high-profile venture combining Hollywood talent and Silicon Valley technology, was partly financed by VCs. It's difficult to say

if the millions of dollars raised have borne any fruit, but the initial promise — that of "taking the best Hollywood storytelling talent and the best Silicon Valley technology talent to make great new games" — was very appealing to the VCs. Judging by the company's original game offerings, the marriage was on the rocks from the word go, but the lure of a big return on investment being what it is, a new management group, a new strategy, and links with Silicon Graphics, and Internet game development keeps the company purring along.

Crystal Dynamics, which rode to prominence on the coattails of 3DO, is another VC-financed game company that retains the support of its backers in the light of the demise of the original 3DO player, and is changing its focus to PlayStation. A recently announced strategic partnership with Microsoft also helps to keep the company in the limelight and a potential player in the entertainment software market.

Another new technology driving the game industry is the explosion in 3D hardware for the PC. With so much talk about the quality of the graphics on next-generation systems such as PlayStation and now, Nintendo 64, Microsoft has forced the issue by using its Direct3D to pull along a whole family of 3D accelerators for PC games. Unfortunately, the delay on Microsoft's

of the deal, he took it upon himself to develop the location himself. "I had a totally failed marketing plan," recounts Ford. "Because, initially, there were no small offices in Sand Hill Road."

However, Kleiner Perkins, one of the first of the VC tenants to take space, was quickly followed by Reed Dennis, and as Ford started to learn more about venture capital companies, he started to see an opportunity to carve a niche for himself. So, he developed a strategy to pursue VCs as tenants. As the success of his VC tenants became apparent so grew the reputation of Sand Hill Road.

There are many reasons now why Sand Hill Road can be considered an attractive location. The office complex sits neatly between San Francisco and San Jose, with easy access to both on the I-280 highway. The lure of Stanford

University, in nearby Palo Alto, was enough to draw a number of high-tech
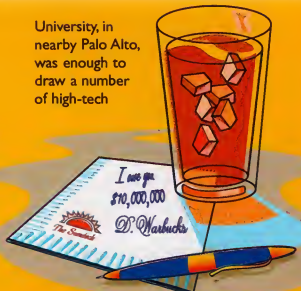
companies to the area, and was enough to attract the VCs, too. Stanford's MBA alumni are keenly recruited by the firms in Sand Hill Road, as are the scientists of Stanford by Silicon Valley companies.

The success of Silicon Valley didn't

mean the VCs grew in terms of personnel, or that they started to occupy bigger offices. Instead, they attracted other venture partners, lawyers, accountants, and all the services that they needed to run their financial community. For example, Sand Hill Road executive recruitment firms reside side-by-side with companies looking to put executives into their latest ventures, and when those executives have made their millions they can walk to the offices of an investment firm in the same building.

If you time it right, you can pretty much get to see anyone who might be a potential investor in your business idea in just one day, and not break into a sweat. In Silicon Valley, there is no time to waste when there are millions to be made.

Thomas Ford has also been shrewd enough to work at keeping the status quo

ng $pecial

behalf in getting Direct3D to developers has meant many hardware developers were faced with having hardware out with no visible titles to support them. This has created a niche market for developers to port from other platforms to 3D hardware accelerators on the PC. Companies such as Nvidia, 3Dfx, and Rendition were all VC backed and have strategies targeting the game market with their 3D chips.

As Ken Nicholson of ATI Technologies, one of the leading manufacturers of graphics boards for PCs, likes to say, "It seems that right now, with 39 companies spending money to buy into the 3D game hardware market, a smart game developer can make money by forcing their game to use 3D hardware registers."

Most game enthusiasts would concede that straight ports of titles are not a very attractive reason to go buy new hardware or invest in new technology. That is why Microsoft is investing heavily in bringing its own 3D game titles to market. The PC represents the single biggest market for game developers, is unhindered by the licensing monopolies of the console vendors, and is open to invention. Silicon Valley sees the potential of the lucrative game market, and the VCs of the Valley are poised to invest in any technology that can enable or dominate the platform. The amount of money invested in 3D graphics alone was close to $500 million, without a

single penny being made. Now, it looks like every PC is going to have some sort of 3D acceleration by next year.

So do the VCs know

anything about the actual games, or even care? Some people say that

When VCs back the right guy, they make more money than a small country. When they lose, they lose millions of dollars

it doesn't matter: Although games are big business, there are plenty of people who understand the business and care about it to keep it from going stale, and the VCs enable these people to try their ideas out

for real. But others will say that by constantly trying to make a quick, fast buck — as opposed to building sustainable businesses — VCs simply serve to destabilize the game business. By constantly leading the game industry down roads that might yield huge dividends (but in all probability will turn out to be dead ends), the VCs risk not only losing their own money, but putting off for good all the consumers who bought into the hype.

Certainly, the three most high-profile VC-funded operations of the last few years — The 3DO Company, Rocket Science, and Crystal Dynamics — have been spectacular disappointments. Venture capital is also largely responsible for the flood of homogenized, stale "games" chasing the multimedia CD-ROM fad of a couple of years ago. There were the odd successes of "game" titles like Myst, but they were few and far between.

But in balance, VCs do promote innovation and competition, which have to be positive. And the real game enthusiast — someone whose passion won't be killed by a couple of disappointing experiments — should be glad of the VCs. There is a lot in the game industry's future to look forward to, and some of it is attributable to the business desires of the VCs of Sand Hill Road.

The 3D graphics boom hitting the PC market is driven by what the next-

---

of his elite development. He is not a typical real estate developer, building up a portfolio of properties. Instead, he is putting most of his efforts into increasing the value of his most prized Sand Hill Road estate. He works with his tenants to make sure that expansion and

plushest city offices of the more beautiful downtown area of San Francisco. In a way Sand Hill Road epitomizes Silicon Valley. It lies at the epicenter of the most concentrated technology power base in the world. Technology, in turn, lies at the heart of game development. The power

who may pass you on to a VC colleague at another company across the hall, who may say you need to spruce up your business plan and pass you on to one of the accountants in the next building, who may pass you on to yet another VC. And so on, and so forth, until, if you're lucky, someone either takes a liking to your plan, or more importantly, to you, and offers you a couple of million to get going. That's it in a nutshell, but like all things that sound simple, it's a lot harder to do. One favorable remark, one champion of your cause, and the word gets around Sand Hill Road, and the other workers in the hive flock to you.

Sand Hill Road epitomizes the Silicon Valley. It lies at the epicenter of the most concentrated technological power base in the entire world

renovation plans coincide with their needs, and some of them have even helped him by investing in a few of Ford's own real estate ventures.

All this adds up to the

unique situation whereby a 16.5-acre tract of land, nestled amid the yellow hills of Silicon Valley, can cost more than the

of these companies is in how it determines to funding ideas that are meant to pervade our everyday lives.

To break into this cloistered world is not easy. First you need to have an introduction to someone on the inside. Opportunity is unlikely to favor unsolicited callers at Sand Hill Road. You may know someone at one VC company,

Thomas W. Ford realized how the hive should be put together. He created an organized area where the focus is on making it easy for VCs to do what they do best: invest and make money. He made a conscious effort to bring in the firms that

generation consoles could do with their graphics at a fraction of the cost, but if it wasn't for VCs a lot of the best stuff you'll see this winter holiday would not have been possible. Most of the coolest 3D hardware is coming from VC-backed start-ups. You could argue that the next-generation consoles wouldn't have been so quickly available had not there been a 3DO with a vision to create the technology standard. Well, 3DO was venture-backed, and its founder, Trip Hawkins, first made his mark with another VC-backed company called Electronics Arts.

The advantage that the VC-backed companies have over their competitors is their desire to dominate through either superior technology or business practices. That is what attracts capital to them. With money to back them up, start-up ventures like TEN can help to change the way we play games in the future. Perhaps, we won't need consoles or PCs, but small network computers that connect us to a wealth of activity on the Internet. Perhaps, games will replace social interaction as VC-backed companies with 3D Internet technology create virtual worlds for us to roam in, and play in, and act out our wildest fantasies.

It is technology that enables more compelling content, and Silicon Valley VCs are king at recognizing the value of technology, and then giving the real innovators a chance to do something with it.

* * * * * * * * * *

would service the VC community, and meet their every need. Even the Sundeck restaurant was subsidized by Ford to make sure that the VCs didn't have far to go to get a bite to eat. And, only half of the land belonging to the Sand Hill Road estate is occupied by buildings and parking, the rest of it remains in a natural state, and adds to the stately atmosphere of the place.

The folks at Sand Hill Road have helped to finance the game industry before, and it's certain they'll continue. The PC scene is hugely influenced by VCs, and so is the move toward the Net. It's safe to say that the technologies being funded by Sand Hill Road money will have a direct impact on the multiplayer games of tomorrow. And if you want to get a jump on the crowd in terms of finding out what games those might be, may we suggest you book a table at the SunDeck restaurant, Sand Hill Road. **ng**

Beg, Steal or Borrow

J ust for the moment we'll assume you have a killer idea for a game, a dedicated team to develop it, and the only thing missing is the money to get it off the ground. It's time to put together a business plan. Your business plan should include a description of the title, and a sense of how the game would play, perhaps by taking the reader through a level of gameplay. Add information that shows a potential investor why people would want to rush out and buy your game. Include a summary of other games that might vie for attention in the same genre or are direct competitors.

If you can avoid going to a VC in the first place, do so. If you haven't got any rich relatives, find some. If you find a credit card, use it. You don't want to have to put yourself through the funding process because it takes a special kind of person to get funding. It's also a full-time job. Big game publishers from Activision and Acclaim, to the people at Sony and Sega are looking for new titles all the time, but unless you have a proven track record you're going to have a tough time getting through the door. If you

If you haven't got any rich relatives, find some. If you've got a credit card, use it

have a demo, or great artwork, then chances are someone is more likely to want to give you a shot at a deal. It isn't easy making the contact and thick skin is a prerequisite because the process is laborious, arduous, and seemingly never-ending.

Going to VCs with a game idea is not a wise move. VCs look
for companies that they can invest in, not titles. They want to back an organization that they can either sell or take public in a short space of time. The time depends on how long they've got to show some return to their investors. A strong business plan, sound management, good strategy, and a shot at taking a dominant position in a market are what the typical VC looks for. An introduction is almost a must. The person who introduces a VC to you should ideally be as important as a VC (if the cab driver from the airport has a brother-in-law in the VC business, you're going to get as much attention as any investment opportunity offered by a taxi-driving relative). Oh, and don't forget, VCs like to spend a couple of million dollars on their companies. There are some who will do smaller "seed" financing, but the procedure is just as difficult.

"Angels," the kind with fat wallets, not wings, are another source of financing. Sometimes angels come in the guise of wealthy individuals who are looking for creative ventures that catch their fancy, or they may be entrepreneurs in their own right. In the world of entertainment, angels rank among the more ubiquitous sources of funding for a production. Finding angels can be serendipitous, or impossible. A good bet is to find out about projects that have been financed by angels, and find out who the angels were.

The Hollywood influence shows up in game financing, too. Agents, such as United Digital Artists, exist to put creative talent from the world of interactivity and multimedia together with sources of funding, publishing, and distribution. Getting an agent is also not a pleasant experience. An agent makes money off of your skills, but has the connections to find you the right partner. Check to make sure the agent you choose has the connection, and then convince the agent you're worth the effort.

Finally, remember that it's a hit or miss business. Opportunity exists in the game business at all levels because there is no limit to creativity. However, for every success there are hundreds of others who don't make it. Unfortunately, the odds against making it are pretty high. **ng**

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NEXT GENERATION October **1996**

alphas

N ext Generation is proud to present the largest collection of alphas ever assembled since we began publication. Up to the minute, in-depth coverage, plus exclusive interviews with the brains behind the games.

Previews, we've got lots and lots of previews

Tomb **Raider**

Hot-shot development house Core Design's latest project boasts a busty heroine and relentless 3D action. But can it really surpass *Mario, Crash,* and *Sonic*?

Tomb Raider is proof that the problems inherent in 3D design are slowly but dramatically being solved

Format:	**Saturn, PC**
	PlayStation
Publisher:	**Eidos**
Developer:	**Core Design**
Release Date:	**fall**
Origin:	**U.K.**

Her name is Lara Croft. She's a mercenary, big game hunter, and master thief. She survives by being faster, smarter, and a better shot than anyone around her. She is quite possibly the most hard-bitten hero to ever grace a computer screen, and also a shining example of the cutting edge of videogame technology.

Tomb Raider (previewed initially in NG 17) is among the new wave of 3D games, strikingly different from the myriad of *Doom* clones the industry has become accustomed to over the last three years. It eliminates the first-person perspective and puts the player-controlled character on the screen for all to see. The perspective will be familiar to anyone who's seen *Super Mario 64*, but it's important to realize that Core Producer Toby Guard began development on *Tomb Raider* more than a year and a half ago, long before anyone had seen Miyamoto's creation.

Indeed, between *Mario 64*, Shiny's *MDK*, Infogrames' *Fade to Black*, Fox's *Die Hard Trilogy*, and an as yet untitled effort from Mobeus Studios, it's apparent that the industry is in the throes of what Jung termed "synchronicity" — different individuals or groups coming up with very similar solutions while working separately on the same problems.

Tomb Raider's story has it that the character Lara Croft has been hired by

ng alphas

"If you have to stare at someone's bum, it's far better to look at a nice female bum than a bloke's bum!" Says Core designer Adrian Smith

Core Design is one of Europe's hottest developers and has consistently pushed videogame hardware further than most. Its work for Sega platforms has been excellent, most notably *Thunderstrike* for Sega CD

Tomb Raider **is among the new wave of 3D games, strikingly different from the myriad of** *Doom* **clones gamers have got used to**

a woman named Jaqueline Natla to recover a mysterious artifact from an ancient Mayan temple complex in South America. The item is one of the pieces of the Atlantean Scion, a talisman of incredible power, and as you might expect, Natla is up to no good with it. When Natla takes the Scion from Lara after it's been retrieved, leaving the adventurer for dead, Lara tracks her across the globe, determined to stop her, more for personal reasons than anything else. The trail leads her to a secret of literally Earth-shattering proportions, and into the jaws of more than one unfriendly critter.

Unlike the last 3D

landmark, Capcom's *Resident Evil*, all of *Tomb Raider*'s levels are completely modeled on-the-fly as true 3D environments — the player is free to run, jump, climb, and swim anywhere, at any time. The game consists of four levels, each in a different geographic area, subdivided into zones: the Mayan level, with three zones; a level set in a submerged Greek city, with four zones; an Egyptian level with two zones; and Atlantis, with three zones. In addition, the game includes a "level zero," set in Lara's unusually spacious house, to enable players some practice mastering Lara's expansive range of moves. While four levels may not sound all that impressive, rest assured that

every zone within every level is practically a world unto itself. The sheer graphic variety is impressive, and when Next Generation staffers were given a try at early zones, not only was every one too large to complete in several hours, but, in fact, it was too tempting to simply skip to the next level to get a glimpse of whatever gorgeous scenery came next.

Work is progressing across three major gaming platforms — PlayStation, Saturn, and PC — and unlike many cross-platform titles, *Tomb Raider* is expected to ship almost simultaneously on all three. The PC version supports 3Dfx's Voodoo 3D acceleration chipset and a high-resolution mode, making it especially breathtaking, but the console versions standout from the crowd of 32-bit "me too" titles as well.

Core's designers have been careful to avoid the "just-port-it" syndrome. In fact, the design strategy has been to use each platform as a separate design station, with each area of development — textures, AI, animation, etc. — being done on whichever platform offered the best tools for the job.

The game's concept has

undergone a subtle shift since the project began. The original idea was to put the game squarely into the "like *Doom,* except..." category, emphasizing action and blasting

The game "camera" pans *Super Mario 64* style, enabling full control

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Of course, obligatory cut scenes enable the telling of *Tomb Raider*'s story

Lara can run, jump, climb, push rocks, pull levers, flip forward, backward, sideways, swim, grab ledges, and keep shooting — all at the same time
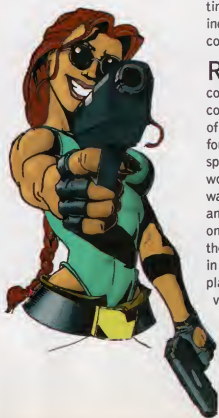
enemies. Since then, as power of a true 3D setting and the size of the game came to be appreciated, more strategic and puzzle elements have been added. As it stands now, *Tomb Raider* more closely resembles a 3D version of such 2D classics as *Metroid* or *Prince of Persia* — plenty of action, but integrated into a whole that requires as much brains as brawn.

Another area where things have been rethought is the animation. When work first began, motion-capture was the rule of the day. Since that time, the animators lost faith in the process. The motions required for Lara's larger-than-life repertoire of moves required larger-than-life solutions, and early placeholder animation done in-house by Core proved not only acceptable, but with tweaking, superior. As it stands, Lara can run, jump, climb, push boulders, pull levers, flip forward, backward, and sideways, swim, grab ledges, and keep shooting at the same time. Her arsenal has expanded to include shotguns and Uzis to compliment the twin .45 pistols.

Remarkably, in spite of the complex range of motions, the game's control is easy and intuitive, consisting of only two or three buttons and the four directions. Actions are context-specific, so the player only has to worry about how to swim while in the water, or pulling and pushing blocks and boulders when standing next to one which can be moved. Also, while the game camera tends to follow Lara in an over-the-shoulder perspective, players have full control of how to view the action, through a method of control similar to its partner in 3D action, *Mario 64*.

To describe *Tomb Raider*

The locations Lara finds herself in are modeled on real-world buildings and designs. This ensures that *Tomb Raider* maintains a real world feel, while facilitating some extraordinary action

as a revolution in gaming is to ignore the incredible strides in 3D game design that have taken place over the last two years. Peter Molyneux, head of Bullfrog, told Next Generation at the very beginning of the 32-bit era: "Everyone is sitting down and realizing that it's bloody hard to design games for 3D, and trying to take tried and tested concepts like platform games and convert them into 3D games is really tough to do." (NG 05). What games like *Tomb Raider* prove is that the problems inherent in 3D design are slowly but dramatically being solved. **ng**

Tomb Raider's Lara has to be seen moving to be appreciated ("Baywatch" producers understand that the same is true of Pamela Anderson)

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An interview with

Core Design

Tomb Raider is the pet project of one of Europe's hottest developers Core Design — a company now part of the Eidos empire. **Next Generation** visited Core's HQ in Derby, U.K. and met with Adrian Smith, Core Design's operations director, about the development of *Tomb Raider*, and the company's plans for pushing the gaming frontier in the future.

NG: You're about a month from completion, so what are your biggest concerns with *Tomb Raider* right now?

Adrian: Well, our main concern is that we've been running demos for a long time, but what most people have seen is only about 30% of the actual game. People have seen the 3D environment, they've seen Lara running around, shooting the shit out of wolves, and they think that's it.

Originally the game was more of a shooter than it is now, but we've been influenced a lot by the *Prince of Persia*-style of game. I think now we're closer to *Ultima Underworld* or *Dungeon Master* than *Doom* as far as gameplay goes, although there's still plenty of action.

The puzzles involve falling tiles, blowgun darts, *Indiana Jones*-style big rolling balls, and, of course, lots of bears and wolves and the like to shoot at. Any puzzle element you can think of we've put in there, but we've got a totally original implementation of those elements.

NG: All the demos we've seen so far have Lara squaring off against wolves and bears. Are there other kinds of enemies, or aren't you worried about animal rights groups?

Adrian: We're an extremely vicious lot in England! Yeah, we had a presentation a while back, and there were real concerns about how when we shoot a bear it lets out this horrific howl! [laughs]

I guess we stirred up a bit of a hornet's nest showing the game so early when we only had some of the first stages complete. Initially, the enemies you meet are completely real, and that's intentional — you meet wolves, you meet bears, snakes, and bats. As you get farther into the game, into the lost city areas, you actually meet dinosaurs — raptors and T-rex's — then you start running

across other adventurers and hired thugs, and finally, when you reach Atlantis, it's all very *Stargate*-like with strange alien humanoids.

Actually though, this isn't that violent a game. The shooter element isn't the key element. It's there to slow the gameplay down a little and present the player with some interesting obstacles to overcome.

NG: How did you and the Core team set about designing *Tomb Raider*?

Adrian: The development process has been in three or four basic stages. The initial work was on the editors for the system, which gave us the tools to build the geometries very quickly. The character system was next — getting Lara to move correctly at the right times. That took a lot of work. Obviously, the

Core Design's Adrian Smith

"The PlayStation version runs marginally faster than the Saturn version. But we'll keep tweaking until they're the same"

3D graphics engine — getting the environment and the characters to work together — took some time.

The stage we're in right now is where all those things are being thrown together and hopefully we'll have a game soon!

NG: There's a version of *Tomb Raider* for PlayStation, Saturn, and PC. Is this a strain, or are things going well?

Adrian: It's been pretty good, actually. All the games we're working on at Core now are

three-tiered. We're not well-known for our PC products, we're more known for our work on consoles, but this product will hopefully push us into the PC limelight

When we began the development process, the initial work was done on PC because there are fantastic tools available on the PC, it's easy to work with, and we all know it. Then the engine was almost stopped and work began on the consoles, and the game was really born in its current incarnation.

Now we have one person working on each platform, and each of the three platforms use almost completely different code, but from the design side the solutions have to be the same — the enemy AI for example, is being coded on a PC, but the AI has to be the same in every version, and, in fact, those routines in particular are easily portable to the consoles.

So the three feed off one another. It enables us to break the development down into key areas, and let each programmer work on what he finds interesting. So, we have a guy who wants to work on AI, we say, 'Fine, get on with the AI.' Meanwhile, there's another guy who wants to work on, say, the camera system. When they get the solutions worked out, then it's just a matter of taking those solutions and writing the specific code for each machine. It's good because that allows a certain competitiveness between them and it keeps them going.

It is a pain but it has its advantages because each of the systems has its advantages for working on different problems. What's more, it means that all three versions will be ready at the same time.

NG: The PC version supports 3Dfx's Voodoo chipset, how does this affect the quality of the PC version?

Adrian: The thing about the PC version is that we can get high-res, which, to be quite honest, looks absolutely awesome. The 3Dfx version is again very special.

I think that 3D graphics cards are going to be extremely important to the PC market in the years to come, and we're not only supporting the 3Dfx but also the Rendition board, the Blaster — three or four of the basic cards. We had a 3Dfx card very early on and we're very impressed by it.

NG: You know that 3Dfx is using *Tomb*

ng alphas

Raider as part of its product demo.

Adrian: That's right, yeah. We gave them the code a while back. It was no major deal, and I have to say that it took the 3Dfx guys only a couple of days to get it running on the card. Our limitations are that, unfortunately, at present *Tomb Raider* isn't native to Win95. There's a strong chance that it might become native 95, but we're a long way into the process right now. If we can do that without delaying the product, obviously we will, but otherwise we'll just have to support as many cards as we can.

NG: How about the console versions?

Adrian: PlayStation is a very fast machine for shifting polygons, and obviously this is a polygon-based game. It's probably been the easiest to implement the geometry on, and we use it for testing.

However, the PlayStation version runs only very, very marginally faster than the Saturn version at the moment, and we'll keep tweaking Saturn until they're the same. It hasn't been as easy to implement as the PlayStation in some ways, or the PC in some ways, because when we launched this project the Saturn graphics library wasn't as strong as it is now, but I would say that it's going well.

So, the three versions are subtly different, but I wouldn't say there's a massive quantitative difference between them, at least not between the PlayStation and the Saturn. This isn't a game that relies that heavily on special effects — you know, bizarre lighting, or a lot of transparency. The only place we even use transparency is for the underwater scenes, so it's a really clean application no matter what platform it's on.

NG: The demo level seemed huge. Just how large is this game going to be?

Adrian: That's the golden question at the moment. I can't really wave a magic wand and tell you with any precision because we're still working on it, but I can give you some sort of idea. Each of the four geographical areas are called levels, and then each level has a series of zones. The demo we've been running at [industry] shows is actually just one zone of just one level.

At the moment, we haven't tested the game as a whole entity, but I've played one full zone out of level two — which depends on a lot of swimming and raising and lowering water levels to get to new areas and figure the next step out — and I played it for six and a half hours and never actually finished. And I know my way through it!

So it's going to be a big game, maybe not as big as, say, *Mario* on Nintendo 64, but there's a lot of gameplay in there, and there are bonus areas that aren't blatantly obvious.

So even if you get through it once, we want to leave you with the gnawing suspicion in the back of your mind that you've missed a high percentage of the map, and if you go back and try again, there's more stuff to find.

NG: With such a big game, is CD access time a big problem?

Adrian: It isn't actually, no. We had some problems initially, but we're not even worried about it at the moment. When you enter a zone, it's loaded in as a single entity. So once you've gone into that zone, you just keep playing. Also, when you reach a cut-scene, we're using basically the same models as you see in the rest of the game, so it's pretty much a continuously running thing.

NG: So you're avoiding FMV.

Adrian: Oh yeah. The models we use for the cut-scenes have a slightly higher polygon count than the ones in the rest of the game, but we haven't even gone for the kind of photorealistic type of people you usually see.

Getting immersed in this game is the main thing. When you're playing it, with the Greek and Roman influences in the later levels, it's

Core Design's *Tomb Raider* team on a rare sunny day in England

"Right now we're more concerned with getting the bloody thing out the door than whether or not we're influential"

just absolutely breathtaking — you *are* Lara, and we don't want to suddenly distract people with a lot of video.

NG: So why have a female hero? Why "Lara Croft" instead of "Larry Croft?"

Adrian: Well, I guess the explanation we like to give is that if you have to stare at someone's bum, it's far better to look at a nice female bum than a bloke's bum!

NG: Can we quote you on that?

Adrian: Yeah, do it! [laughs]. We did go through hell and back with it early on. We

wanted the character to be agile. We didn't want a macho, Rambo-type person. We wanted someone athletic in a gymnastic way. We wanted someone tough, but kind of coy and not pushy.

Everything we kept coming up with just lent itself to a female character, and personally, as a bloke, I find it really cool to play as a woman. Plus, they're just a lot more attractive to look at than a bloke.

NG: But what made you decide to put a character in it in the first place? Why not just make another first-person *Doom*-clone?

Adrian: At the time we started this, some 16 months ago, *Doom* was a new genre of game that everyone jumped on. That type of genre is a good genre, there's no getting away from that — it's playable, you pick it up and start blasting the shit out of things. But we wanted to avoid the stereotypes. So it was a reasonable, logical progression to put a character in there. This was the approach we liked, and the rest just fell into place.

One thing which I found quite frightening was that, after working on this game for a year, we finally got a chance to look at Nintendo 64 and play *Mario*. And without question, I'd say *Mario* is the top game at the moment and probably will be for a long time.

But what I was absolutely shocked by was that the camera system was almost exactly like ours. I thought, "Shit! Someone's beaten us to it and now it's going to be called a Nintendo thing!"

Mario goes underwater, just like Lara, and this is 100% coincidence, but it's really scary! Obviously, we've got a harder edge than *Mario*, and the gameplay style is very different, but some of the things we worked out for that environment, like the camera system, must work really well, because someone else did it almost exactly the same way.

NG: Many games seem to be using this perspective lately — *Mario 64* obviously, but also Shiny's *MDK*, Infogrames' *Fade to Black*, Fox's *Die Hard Trilogy*. How does it feel to be at the start of a trend?

Adrian: Well, it's always nice to say you're first, but the fact is that Toby [Toby Guard, project manager] made a game years ago on the Atari ST with a simple, little matchstick man walking down a corridor, which he thinks was the original third-person, 3D game.

I maintain there really are no original ideas, just original concepts based on good, old ideas. We're crossing lots of boundaries, but right now we're more concerned with getting the bloody thing out the door than whether or not we're influential!

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PLAYSTATION   SEGA SATURN

Final Fantasy VII

The most beloved role-playing game series
in the history of console games enters the
next generation with its magic intact

Square aimed to make the gameplay
(above right) look every bit as good as
the prerendered sequences (above left)

The camera follows
Claud's progress from
fixed positions en route

Format: **PlayStation**
Publisher: **Square**
Developer: **Square**
Release Date: **December**
(Japan)
Origin: **Japan**

Some may question
Square's motives for
breaking with
Nintendo a year ago
and announcing that
Final Fantasy VII, a
nearly guaranteed hit (at least in
Japan), would be available only for
Sony PlayStation. The claim was that
FFVII was too graphic-intensive, and
that its release in a cartridge format
would make the game prohibitively
expensive to produce and market.

Whatever the real story may have
been, it's certain that a year later,
FFVII includes some of the most drop-

dead gorgeous graphics ever to
grace the system. Producer
Hironobu Sakaguchi wants the
game to look like a movie, and
more than 100 designers have
been slaving on *FFVII*'s graphics
in the luxurious Square offices in
Meguro, Tokyo. The final game will be
released on two (perhaps as many as
three, see interview) CDs, containing
hundreds of prerendered CG screens.

According to a Square
spokesperson, this equates to, "more
than 40 hours of gameplay. About the
same as *FFVI*" — which, to anyone
who's played *FFVI* (*FFIII* in the U.S.)
seems like a severe understatement.

The most notable addition to
the series is the 3D environment. Like
Resident Evil, *FFVII* mixes polygon

Magic spells use every special graphics effect in the PlayStation library

characters with prerendered backgrounds, however, it does this in a way never seen before. The opening sequence, for example, begins with a prerendered movie, then switches seamlessly into gameplay — the final sweeping camera movement brings the view down into a train station already inhabited by characters modeled on the fly. Additional characters jump off the train, and the game begins.

Certain points in the story

call for cutaways to other characters or objects in the distance, all of which are performed using the same models and backgrounds as in the rest of the game. The technique is similar to that used before in the series' 2D installments, but the effect in 3D is breathtaking, giving the feel of both watching a movie and yet fully controlling the game at the same time.

"Barrett" (a loose translation from his Japanese name) is one of the three new main central characters. He has a Gatling gun for a hand, and — unsurprisingly — he's especially strong, and useful in a street fight
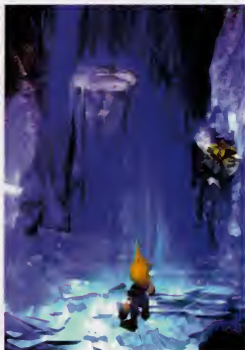
At press time, very little is known about the storyline. The only details released by Square are that the game will continue the *FF* series, but that players coming to the *FF* series for the first time will not be lost. In Japan, rumors are rife as to what directions the plot line might take, but Square ain't talking.

What is known is

that the action takes place in the city of Makotoshi (The City of Bright Magic, also referred to as Midgar in some English translations), an underground world that mixes high-tech and low-tech to a degree that hasn't been seen before in a *Final Fantasy* game. Indeed, in this the game more closely resembles another title from Square, *Front Mission*, and its sequel *Bahumat Lagoon*.

The player's team has three characters. Claud, the leader, comes from the world of *Final Fantasy VI* where he was only a child.

Super NES gamers will recognize the brilliance of Square's artwork. Soon, legions of PlayStation fans will see it for themselves

During battle sequences the game camera pans and follows the action
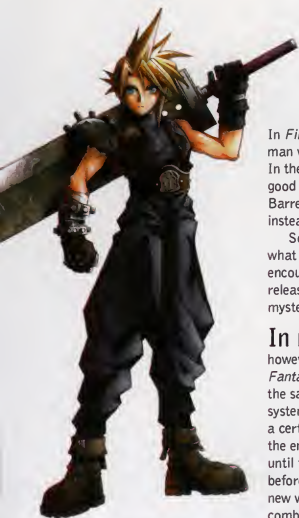
In *Final Fantasy VII*, he's a young man who uses a sword as big as he is. In the quest he's joined by Aerith, a good witch armed with a pole, and Barret, a giant with Gatling guns instead of arms.

So far there's been no word on what other characters might be encountered, the only other hint to be released is that they have to destroy a mysterious enemy, Makulo.

In most other respects,

however, the game is still a *Final Fantasy* title. Combat is still based on the same ATB (active time battle) system as before — players have only a certain amount of time to act before the enemy does, then they must wait until their characters time gauge fills before acting again. However, a slightly new wrinkle has been added to combat, a new gauge known as the

Your three characters can attack only when each's time meter (see lower right) is replenished. When full, the "Limit" bar enables special attacks

"break limit," which displays the amount of damage each character has taken in a given amount of time. When the character's limit is reached, a new special move can be performed.

During battles it's possible to choose different views, even to being able to look through a character's eyes; and spells use every special effect in the PS-X library.

Due to the large amount of

data required, it's apparently not possible to save a level on one memory card. Working closely with Sony, Square is testing a couple of solutions: the first is to save the game on two cards, while the second is to release a higher capacity card.

The plan is to release the game in Japan by the holiday season, then release it in the U.S. some time late next year. We can't wait. **ng**

You're not the only bad guys around. This scorpion has spells of its own

The exploration part of the game feels similar to *Resident Evil*, but with even more menace and sense of atmosphere. You only ever see Claud on screen, but don't worry — your friends are never far away

Not all the environments are sinister. Square plans to take players on a voyage through many different worlds

ng alphas

An interview with
Hironobu Sakaguchi

While visiting Square's HQ in Tokyo, Next Generation interviewed the legendary Hironobu Sakaguchi, one of the founders of Square and the chief producer and designer of the *Final Fantasy* series.

NG: How long have you been working on *Final Fantasy 7*?
Mr. Sakaguchi: For about seven months. You're probably thinking that's pretty short, but we've put a lot of resources — we have at least 100 people working in-house — into completing this within a given time-frame.

We believe that we're probably number one in Japan right now on the amount of money spent with on Silicon Graphics machines, and we've recently been rewarded by Microsoft for our high sales volume of graphic software!
NG: Other than improving the graphics, how has the 32-bit technology of PlayStation enabled you to make this *Final Fantasy* game play better than previous versions?
Mr. Sakaguchi: As a hardware platform, the computing functions are that much more elaborate, so as a programmer, if you have a nice machine, you can do more in terms of software creating and expression.

Above that, CD-ROM as a medium is very beneficial to the software creators. Of course, you've seen what it does on the graphics side. It also has very clear sound. And if you're not chintzy about increasing the number of disks, you can increase you capacity to what your creators require.
NG: The text and the dialogue in the game are still text-based. Was there ever a plan to use CD-supplied voices?
Mr. Sakaguchi: We feel it's important to concentrate on speed of CD access during the game, and the CD can only read one thing at a time. We have to try to predict forward and anticipate the possible things the player can do next, and to do that kind of calculation we can't use the CD for something else, like voices. With something like DVD or some other future media, this problem could be solved — if we had the ability to access two locations at the same time.
NG: Do you believe that real voices could enhance the characters' personalities?
Mr. Sakaguchi: I believe that it could. In the meanwhile, enhanced graphics could enable players to read the character's emotions, so

perhaps text would still be sufficient in some situations. You can read a lot just by seeing the expressions on characters' faces.
NG: Square has hired a lot of "Hollywood" talent, and people from the movie business. These people are skilled at telling linear stories — not interactive entertainment — so what can they bring to gaming?
Mr. Sakaguchi: Most of the people who have moved to Square from Hollywood are computer graphics people, and they are involved in not just drawing but the programming side of art. These people came

"We're not kissing up to the mass market. Our last title sold about two million units. So we've got a mass market right there"

to Square with a frustration that movies are simply not interactive. Programmers want interactivity. They're doing what they are doing because eventually they want to create interactive entertainment.

They feel that by coming into the game industry, they will be able to fulfill that side of their dream.
NG: Why are role-playing games so much more popular in Japan than in the U.S.?

Mr. Sakaguchi: That will change next Christmas when *FF7* comes out in the U.S! [Laughs]. I think that, in Japan, the *anime* culture, the Manga culture, cultivates and sustains the RPG genre.
NG: It is fantastic news for Sony that *Final Fantasy* has come to PlayStation. Your choice to leave Nintendo seems to be an issue of media; of cartridges versus CD-ROMs. Do you think that things will change when Nintendo launches its 64DD?
Mr. Sakaguchi: The 64DD offers about 60 MB. We need about 1,500 MB for *FF7*, and we're already squeezing it into two disks, maybe even three disks. So obviously it would be pretty much impossible for us to do this for Nintendo 64, even with the 64DD.
NG: Still — as a game creator — you must be quite excited by the possibility of a writable storage medium?
Mr. Sakaguchi: Sure, it can be excixting, but that depends on what kind of game you're trying to create. For the *Final Fantasy* series, we want to create an interactive movie, in the sense you can walk into the movie and be a part of it. This means that the graphic quality is very important.
NG: So why go to Sony and not Sega?
Mr. Sakaguchi: I can't go into detail without offending anyone! [Laughs]. But we did very, very carefully research which platform was most viable for our purposes, including Nintendo 64 and Saturn, but we decided that PlayStation was most suitable.
NG: It is hoped that in the U.S., *FF7* will attract many first-time gamers to the RPG genre. Has gameplay been simplified at all to accommodate these novices?
Mr. Sakaguchi: There are certain parts of the game where there are racing elements, and other non-RPG game factors. So, yes, there are some goodies planned to interest non-RPG gamers.
NG: In making these changes, is there a danger that you will lose your core audience, or that fans of previous *Final Fantasy* games will be disappointed?
Mr. Sakaguchi: Oh, we're not kissing up to the mass market in any way.

In Japan, our last title sold something like two million units, so we've got a mass market right there. We endeavor to create the highest quality games possible, and as a result, we believe we'll be able to involve larger quantities of players without disappointing the original gamers.

ABOVE GROUND

UNDER WATER

IT'S PART TANK,
PART SUBMARINE,
AND ULTIMATELY,
ONE FUNKY
LOOKING COFFIN.
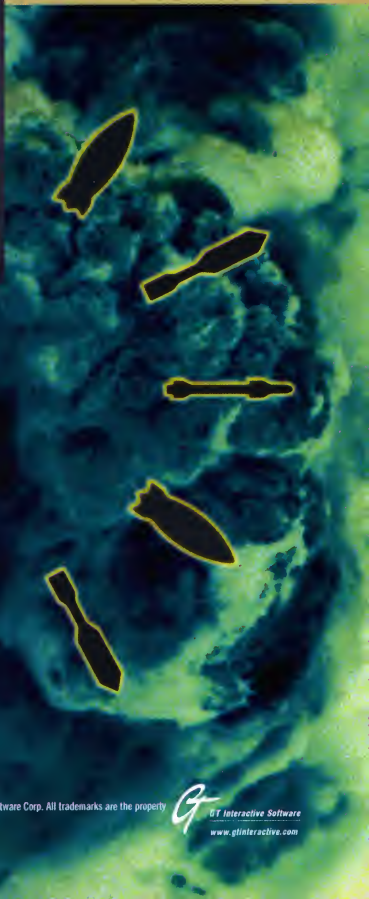
PC CD-ROM

ng alphas

Tobal No.1

With help from a team of Namco and Sega veterans, Square leaps from RPGs to the world of 3D fighting games

Sure, there are few texture maps. But *Tobal No.1* is the best looking 32-bit fighting game yet

Format: **PlayStation**
Publisher: **Square**
Developer: **Dream Factory**
Release Date: **Out now (Japan)**
Origin: **Japan**

The additional quest mode places players in an inhospitable dungeon

Finally, a 3D fighting game in which true movement in 3D space is fully enabled!

Square's executives don't do things by halves. When they decided to take *Final Fantasy VII* from concept to shrinkwrap in seven months, they simply devoted 100 employees to the project. They spend on computers and software alone, $80,000 per programmer and up to $230,000 per artist (they are SGI and Softimage's largest Japanese customer). Recently, they spent $3 million on installing a fiber-optic networking infrastructure, largely so their music composers could have easy access to the latest graphics output.

So when the company decided to release a 3D fighting game, it got the best talent it could buy to head up the project. They picked Seiichi Ishii, who

had previously worked on *Virtua Fighter* for Sega and the *Tekken* series for Namco (see interview page 88).

Rather than hire Mr. Ishii outright, a major Square stockholder put up the cash to help Mr. Ishii start his own development company, Dream Factory,

Unlike the majority of

3D fighters released since *VF2*, *Tobal* does not feature 100% texture mapped characters (small textures were used for facial features and other details). Instead, all the characters are Gouraud shaded, which gives them an almost retro-polygon look. Because texture maps were not used extensively, Dream Factory has been able to achieve a 60 fps refresh rate, and utilize the PlayStation's 640 x 480 high resolution mode in the game. The

Gameplay bonus or pure gimmick? Either way, Quest mode is a fun idea

result is exceptionally sharp and smooth animation that easily rivals anything yet seen on a console.

The movement system is also totally unique. Instead of pushing up on the D-pad to jump, and down to crouch, those functions have been assigned to the shoulder buttons. The D-pad is left to control only direction of movement, so it is now possible to move into and out of the scene, enabling players to attack from the front, back and sides (a double-tap results in a quick dodge a la *Tohshinden*). Think about it — a 3D fighting game in which movement in true 3D space is now fully enabled!

The same grabbing move, executed from the front, back, and each side, will have four different effects, which greatly enhances the depth of the game, and of course, many moves depend on the character's rate of speed and height.

Tobal's camera moves in a sweeping fashion that tends to keep the characters on the same side of the screen they started on, regardless of their current position in the ring. This takes care of problems trying to pull moves, only to have to reverse directions mentally in mid-attack, thanks to erratic camera changes. The other major innovation in the game (which falls plainly into the "why didn't someone do this before?" category) is the Quest mode. Here, you take a character into a *Doom*-style

The movement of *Tobal*'s characters surpasses that of *Virtua Fighter 2*'s

dungeon for some over-the-shoulder RPG style play, including potions, traps, elevators and more. All of this is additional to fully featured combat. It's a great way to enhance one-player replay value, and we hope to see it expanded upon in the inevitable *Tobal No. 2*.

Despite *Tobal*'s innovations, though, its success is not guaranteed. Next Generation finds the character design somewhat uninspiring, although the excellent motion capture nearly makes up for it. And it remains to be seen if it can keep up with *Virtua Fighter 2* and *Tekken 2* in terms of long-term gameplay value. But it's definitely a game to watch, and more proof of Square's ever-growing status. **ng**

Check out the shadows of the characters. So did the *Tobal* team bring any of *Virtua Fighter*'s gameplay from Sega, or just the great looking graphics?

Tobal No.1 features animation that rivals anything yet seen on a 32-bit console

Players will find *Tobal*'s control method a little strange to get used to. Pressing up walks the character "away," while pulling down doesn't crouch but walks the character "towards" the screen. It's a neat solution to the confusion in directional control often caused by the camera pans in the U.S. version of *Battle Arena Tohshinden*

ng alphas

An interview with

Seiichi Ishii

Next Generation spoke to Seiichi Ishii, managing director of Dream Factory, a Square affiliate, about *Tobal No.1*. Before heading up Dream Factory, Mr. Ishii worked on *Virtua Fighter* and *Tekken* at Sega and Namco. *Tobal* is currently available in Japan, but Sony is planning on "tweaking" the game for its U.S. debut.

NG: You worked on *Virtua Fighter* and the *Tekken* series. What's different about *Tobal*?

Mr. Ishii: I believe that once you play the game you will see the difference in the feel of the play. What I tried to concentrate on with *Tobal* is targeting different types of users, without compromising the elements needed to satisfy regular fighting game players.

NG: *Tobal* uses few textures, it's simply Gouraud shaded. Do you think that for the casual user this will be a negative point?

Mr. Ishii: I believe that, initially, when there is no texture mapping, the impact might not be as strong. But staying away from texture mapping yields better resolution and better lighting in the game. And at the same time your eyes don't get as tired, so the longer you play, the more the graphics benefit the game.

NG: 3D games are still essentially in their infancy, and in many cases the gameplay has to catch up with the graphics. Do you think that *Tobal*'s gameplay is up to the standards of the best 2D games, like *Street Fighter 2*?

Mr. Ishii: I believe not, I believe the 3D genre is still growing and changing and there is, so far, no zenith in the 3D fighting game realm.

NG: How long until we reach this level?

Mr. Ishii: I believe that in the opening, prerendered sequence of *Tobal*, when the characters come out, if you could actually play those characters, then maybe that would be a certain level of achievement.

Right now, it takes us about ten minutes to render just one frame of the CG introduction. In the actual gameplay, we're recreating each picture thirty or sixty times a second. If technology allowed us to regenerate each mini picture, but at the speed of the game graphics, then that would be a true 3D fighting game.

We will need to see some kind of a technological revolution over and beyond polygon-based characters to achieve this, though. Right now, just to render each CG

intro frame requires something like 200 MB of RAM — and it's pretty much impossible to ask polygon-based games to match this given the hardware that is available today.

Though I do believe that with further software renovation, maybe we can achieve something like it.

NG: Have you experimented with a first-person perspective, like in the home version of *Tekken 2*?

Mr. Ishii: I tried that when I was developing *Virtua Fighter 1*, and I wasn't able to

> "I believe that *Tobal* has a different feel to its competition and I would like players to take a look at it and experience it"

achieve the feel I was looking for, so I haven't really pursued that route.

NG: The other games that you've worked on — *Tekken* and *Virtua Fighter* — have been arcade games that were transferred to the home. Was the process any different in creating *Tobal*, a game designed for the home right from the start?

Mr. Ishii: With arcade games you are mostly playing with another person and you can join in at any time so there is more variety and

depth when you are playing that way. With consumer games you need to keep in mind that you are probably developing for a one player audience. As a result, I feel that there had to be more depth and interesting aspects to the game — and this is how I came up with the Quest mode.

NG: There's no blood. Why?

Mr. Ishii: In the case of *Tekken*, the original arcade version had red blood. But when we did the consumer version, there was a lot of controversy, depending on the market you had to deal with.

For instance, the Korean market didn't allow red blood at all — it had to be green. Some markets wanted options of red and green. With consumer games, I felt that blood is something that if you put in there, it could be limiting in certain markets, so I decided to leave it out altogether.

NG: It seems to be an unwritten rule in fighting games that a character's strength remains constant, no matter what his or her health status might be. Even if a player is close to dying, he can still fight at full strength. Why is this?

Mr. Ishii: As an important part of entertainment, even after you've received a lot of damage, you should still have a chance to fight back. There is a very famous professional wrestler in Japan, by the name of Antonio Inoki, who is very popular because he is able to win even when people think he is going to lose.

I feel that the entertainment factor is essential, and hence you really don't want to weaken the player to the point where he can't fight back.

NG: With *Tekken 2* and *MK3* coming out for PlayStation, the fighting game market seems to be pretty saturated. What do you think differentiates *Tobal* from the crowd?

Mr. Ishii: First of all, the 360 degree movement — you can actually move behind your opponent and attack forward — which is new, and also the feel of control of the game. You really need to play this to understand this.

I feel that it's like driving a car. All cars seem the same, they have an engine and four wheels, but when you actually drive them, they feel different. I believe that *Tobal* has a different feel to its competition and I would like players to take a look at it and experience it.

ng

Bushido **Blade**

Square steps further down the multigenre road with its new sword-fighting *Bushido Blade*, but will gamers accept its new twist on the genre?

This sequence shows a Samurai scoring a mortal blow on an opponent. Square has executed fantastically on the game's model creation and texture mapping, as the characters show, especially considering that the characters' scale (grow larger or smaller) in size depending on the camera's angle

Bushido Blade looks to be one of the most innovative fighting titles since *Virtua Fighter*. This game, Square's other entry into the fighting market (along with *Tobal*) takes a different tack than other fighters. It does away with health bars, time limits, and tiny arenas, none of which are suited to its format — Samurai sword fighting.

Bushido, or "the way of the warrior," is the code that governed swordsmen, or Samurai, in feudal Japan from around the 9th century AD to the Meiji reformation of 1876. It stresses honor, stoicism, fearlessness, loyalty, and total proficiency in the martial arts.

In *Bushido Blade*,

players take the role of a Samurai warrior who fights, of course, another Samurai. Players choose both their character and their sword, each combination of which gives them slightly different abilities. Fighting occurs in a massive environment — a Japanese castle — and can

The intro movie is surprisingly impressive and showcases some of the best audio work we've heard in months

Format:	**PlayStation**
Publisher:	**TBA**
Developer:	**Square**
Release Date:	**spring '97**
Origin:	**Japan**

begin in different areas within the grounds, like bamboo thickets, marches, deserted houses, etc. Due to the nature of sword fighting, fights can last one hit if the first is a mortal blow, or drag on for half an hour or more. Players can also interact with the backgrounds while they fight.

Square has done an

impressive job with the 3D model creation and the textures. The characters are large and detailed. Because the game runs at 30 fps, the in-game animation looks very smooth. The model of the castle and the fighting areas are also extremely visually impressive.

Whether or not fighting fans will embrace the changes in fighting style presented in this game is still uncertain. Regardless, we are excited about the possibilities that *Bushido Blade* presents. Its combination of unique style and gameplay promise to both enhance Square's reputation as an innovator and add a new twist to the still forming shape of the 3D fighting market. **ng**

Note the game's highly realistic shadow effects

Bushido Web

The following URLs lead to two of the better Bushido and Samurai sites on the web with which Next Generation was particularly impressed.

Bushido
http://nellie.pacificu.edu/as/bushido/bindex.html

Samurai Martial Arts
http://www.afternet.com/~lfowler/home2.html

Final Fantasy **Tactics**

From the company that brought gamers the *Final Fantasy* series comes a fantastical new, "pure" war game with a storyline

駒士ディリータ
「ラムザ、剣をすてろ」

Are those Chokobos? You betcha — *Final Fantasy Tactics* uses many of the familiar *Final Fantasy* characters and sets them in a war game. Expect a few familiar faces and a very different set of challenges

Format:	**PlayStation**
Publisher:	**SquareSoft**
Developer:	**SquareSoft**
Release Date:	**spring '97**
Origin:	**Japan**

Square has never been afraid of special effects, and *Tactics* is no exception

The battle screens seem a bit small, but the gameplay is all there

As if they weren't busy enough, the designers at SquareSoft are continuing to expand on an RPG sub-genre they dabbled in with their *Front Mission* series (and, it could be argued, to a lesser extent with *Final Fantasy V*). And anyone in the United States who's played Enix's *Ogre Battle* is familiar with the premise — it's a war game with a storyline.

This game, however, uses characters and themes taken from the *Final Fantasy* universe, so expect to find characters such as the Chokobo, Black Mage, and Moogles. Players can assign characters to one of 20 different kinds of classes, from knights to mages, then choose from a list of more than 400 special skills.

FF Tactics differs from previous RPG-war games in that each battle takes place within a completely 3D arena. Square has committed itself to taking advantage of all the available technology, and the final product will sport as many special effects and sweeping camera angles as can be squeezed out of the humble PlayStation hardware.

At the moment, Square is keeping *Tactics* closer to its collective chest than any of its other titles. As the first foray into a "pure" game of this type (and looked at as a group with other titles such as *Tobal* and *Bushido*), it represents a further attempt by one of the most respected Japanese developers to diversify its repertoire and bring its considerable artistic and technical expertise to genres outside the one for which it is so well known. **ng**

Hey, when was the last time you got to storm a castle in complete 3D?

Ten Pin Alley

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SOLDIERS

They can get the order to strike anywhere. Anytime. Against absolutely anyone. They don't have names or faces but are the most fearless, covert, and lethal military task force ever assembled. Or should I say, never assembled. Because according to all official channels, they don't even exist. But for a myth, they do an important job. Things the regular military could never handle. Like going into Russia to make sure the Cold War doesn't heat up again. **Written by Andrea Grey**

In real life the good guys don't always win. But when this outfit gets involved that's definitely the way to bet.

This unit has a very simple approach: never leave a place the way they found it.

These guys attack with surgical precision. The only difference between them and a surgeon, however, is that no one comes out of their operation alive.

Any idiot can build
a big concrete
and steel building.
But it takes a
damn good soldier
to knock one down.

With sophisticated satellite
mapping and strike-net
intelligence, the unit gets a
clear view of the battlefield.

Dracula Strike
satellite surveillance

In any other line of
work you learn
from your mistakes.
You can imagine
why that doesn't
apply to these guys.

Customized Apache assault chopper. Hellfire missiles. Chainguns. For an outfit that's not even supposed to exist, they're equipped with our military's most lethal weapons.

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w w w . s t r i k e - n e t . c o m

PlayStation

ELECTRONIC ARTS

Perfect **Weapon**

Combining the gameplay of *Tekken* and *Resident Evil*, can Gray Matter create a brand new game genre?

The first true 3D fighting game? In truth, it's more like *Final Fight* than *Street Fighter*, but *Perfect Weapon* surrounds the player with enemies

Characters in *Perfect Weapon* are modeled on-the-fly, and placed on prerendered backgrounds *Resident Evil*-style. This structure relies on quality 3D artwork, and *Perfect Weapon* seems to rise to the challenge

Format:	**PlayStation, Saturn, PC**
Publisher:	**American Softworks**
Developer:	**Gray Matter**
Release Date:	**fall**
Origin:	**U.S.**

Three-dimensional brawlers and second-person, 3D action titles like *Fade to Black* are becoming increasingly common. Even if it makes no other claims to fame, developer Gray Matter may carve a niche between the two with *Perfect Weapon*. The game has been described as "a cross between *Tekken* and *Resident Evil*," and it is hoped that the finished game may be more than the sum of its parts.

The game follows Blake Hunter, a Navy SEAL and world champion martial artist transported to a mysterious dimension where it seems everyone wants to kill him. Rather than the one-on-one encounters normally found in a 3D brawler, Blake squares off against as many as four opponents at once. Further, the enemies' are driven by what Gray Matter calls Behavioral Artificial Intelligence — they surround and gang up on you, coordinating their actions. This makes *Perfect Weapon* one of the first "true" 3D fighting games, since the action isn't limited to a 2D plane between combatants. In fact, the player has to fight in many directions at once to survive, and the game is unique in the sheer number of 3D characters it can have onscreen at the same time.

Blake has an arsenal of

more than 100 moves, which he'll learn over the course of the game. But opponents are smart and remember what attacks the player uses, so it's important to vary moves and combos as well. When not battling hand-to-hand, the player has to solve puzzles and perform other tasks, such as jumping from platforms across huge chasms.

As one of the more unusual 3D projects coming for the fall season, *Perfect Weapon* should be one of the more interesting. **ng**

Enemies are driven by behavioral AI. They surround and gang up on you, coordinating their actions

Blake Hunter, Navy SEAL, is trapped on a strange planet with no friends

Of course, there's still the odd one-on-one bout, but don't think this makes things easier

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Now, it's your reputation on the line. And time to leave your mark in this perfect translation of the #1 arcade phenomenon. On your side is the innovative custom combo system, now allowing you to link together your own series of brutal attacks. You'll need every possible advantage to take on a total of 18 fighters, the most ever in Street Fighter legend. Remember, hesitation is deadly. Because in the end, it's all about who's the last one left standing.

STREET FIGHTER ALPHA 2

CAPCOM

Sega **Entertainment**

Taking crowd favorites straight from the arcades, this new Sega independent label takes its wealth of killer apps to the PC

Format:	**PC-CD ROM**
Publisher:	**Sega Entertainment**
Developer:	**Sega**
Release Date:	**fall**
Origin:	**U.S.**

The graphic quality of each of these titles equals, and in some cases supercedes, the quality of their Saturn sisters. A third-party light-gun may be in the works for *Virtua City PD* (top left). *Virtua Fighter* (top right) is old news, but it's still one of the best. *Daytona USA* (above left) and *World Series Baseball* (above right)

The recent company divisions at Sega have, for all practical purposes, enabled the company to spread its arcade seeds to as many platforms as possible (NG 19). And the first major platform to benefit is the PC.

Sega Entertainment, the team whose mission is to "deliver the most compelling arcade experience on the PC," has a winter line-up that could work up a sweat on the brows of its competition due to the PC market's current lack of arcade presence.

One of the first titles to appear is *Virtua Fighter PC*, which has more in common with *VF Remix* than the original. The game is all there in its entirety, and includes cool modes like Team Battle (pick 3-5 fighters and battle an opponent or the computer) and Watch mode (which was pulled off VF2) and assists players in learning various fighting styles. *Daytona USA*, the Saturn port that was rushed to market last fall, looks and feels as

decent as it did for Saturn, showcasing its four views, and the similar secret codes (changed for the PC), but still shows noticeable draw-in. And yet another classic, *Virtua City PD* (*Virtua Cop*), translates nearly perfectly. Despite the slightly rusty initial line-up of older titles, more current hits like *Manx TT* and *Virtual On* will arrive in early '97.

What makes the games right for the market, says Greg Saurez, business unit director, is that each game has customizable features and almost all have networkable play. "Our primary goal is to produce these games on the PC properly," he says. "Our research shows that *Daytona*, for instance, scores much higher by testers when compared to *NASCAR*."

Aimed at Pentium 75s, the games also have third-party support, and using Microsoft's Direct X, the games will port straight to Windows 95. With an emphasis on newer, fresher titles, Sega's invasion of the PC, in the end, may be very prosperous. **ng**

Sonic Schoolhouse (top), *Baku Baku* (middle), and *Bug!* (above) are a few converts coming to the PC

Sega's PC invasion

With arcade-perfect ports and a few leverageable Saturn titles as well, Sega Entertainment's fall line-up is quite substantial, though no brand new titles will appear on the PC first.

Out now
World Series Baseball
Bug!
September
Virtua Fighter PC
Baku Baku
October
Daytona USA
Virtua City PD
December
Sega Rally Championship
January-March
Garfield
Manx TT

103

It seems like everyone these days is throwing together some plastic handles with a few buttons and passing them off as joysticks. But I'm a serious gamer. When I want a joystick, I look for a real one. From CH Products.

The engineers will tell you CH joysticks are better because of things like potentiometers rated to 2 million cycles, triggers rated to 10 million shots and a rotational life of up to 5 million cycles. The marketing folks point out how CH joysticks and trackballs have been used for 20 years in medical instruments, robotics, games: even movie special effects.

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Carnage Heart

Let's get ready to program! ArtDink's latest
provides a means to fight with code, not guns

Battles happen in realtime 3D (left), but the real action is
creating OKE control programs using the 40 different command
tiles, most of which have customizable options included

Format:	**PlayStation**
Publisher:	**SCE America**
Developer:	**ArtDink**
Release Date:	**TBA**
Origin:	**Japan**

OKE design (top), battle
(middle), and a typical
command tile screen

ArtDink's President Tatsuo Nagahama still codes and designs every day, and he has a desk in a development cube, not in an office. This may help to explain why the company releases such adventurous software.

In the same vein as Origin's *Omega*, *Carnage Heart* is a platform for battles of programming skill. To fight a war between mega-corps players design and construct Overkill Engines, or OKEs, with the usual options and tradeoffs (armor vs. speed, etc.). Players can schmooze potential equipment suppliers, and over time negotiate better prices (and even invest in promising technologies). Very cool.

Where things get cooler, though, is in the combat system. Once players have designed an OKE, they then program it. This is where the real game occurs. The game offers 40 programming commands, and a limit on CPU space that varies from 64 to 255 spaces. Programming is graphic, with each command represented as a tile, placed on a grid in the CPU. Commands range from the simple ("hop and turn"), to the complex, like "if sense enemy OKE within x paces, then...." (with x being a user defined variable). Players can assign up to 10 global variables as well.

Once players program the
OKEs and test them, they are sent into battle in groups of three. Actual gameplay is turn-based. Assign OKEs an objective, like "attack base," and watch as they move across the landscape. When they encounter enemy OKEs, the scene shifts into a 3D polygonal view, where it's possible to see the OKEs battle it out in realtime. At this point, players merely passively observe the battles.

Twitch gamers will not like this. But for players looking for an extremely technical and challenging game that is 100% cerebral, *Carnage Heart* will likely deliver many hours of intense gameplay. **ng**

**ArtDink's
President
Tatsuo
Nagahama
still codes
every day,
and he has a
desk in a
development
cube, not in
an office**

YOU KNOW HOW IT REALLY HURTS TO GET KICKED
RIGHT BETWEEN THE LEGS? WUSS.

TOMB RAIDER

ng alphas

Virtua **Fighter 3**

Yu Suzuki gives the world another glimpse of the most anticipated arcade game ever

Fighting in the sunset? Sega's Yu Suzuki and Am2 have developed amazingly detailed and interactive backgrounds for the *VF3* crew

Format:	**Arcade**
Publisher:	**Sega**
Developer:	**Sega AM2**
Release Date:	**October (Japan)**
Origin:	**Japan**

One of the most highly awaited games ever, *Virtua Fighter 3* looks to satisfy even the most jaded critic. Not only does the game seem to have been re-created from the ground up, with new character moves, and counter attacks, but even the characters' clothes are different

Finding ways to utilize the backgrounds to maximize each character's abilities adds such an element of depth, the mind boggles

Jeffry's island seems to be the most luring fighting ground of all

lthough they certainly didn't need to remind the public it was coming, Yu Suzuki and AM2 gave *Virtua Fighter 3* its second appearance in a month at a private showing at the end of July. This followed closely the game's beta testing at the Sega Joyopolis Arcade in downtown Tokyo, where eager *VF otaku* waited in line six to eight hours to play one round of combat.

The game was very close to completion, with seven out of 12 stages playable, up from only one at the AOU (Arcade Operators' Union) show in February. During the Sega exhibition, Yu Suzuki introduced some new stages which showed off one of *VF3*'s most interesting new features: arenas that are no longer flat and square. In fact, a great deal of work seems to have gone into making each combat area unique, with its own features and challenges. One stage for

example, (apparently Lau's) has walls on two sides, and a fence along the others. Pai's stage is underground on a subway platform (with a train running by at intervals), including a stalled escalator in one corner and a column in the center as an obstacle. Jacky's stage is set on a skyscraper rooftop in Hong Kong, on an uneven surface. Jeffry's island has sand that sticks to shoes and clothing, and it's heavily rumored that combat is possible in the shallow surrounding water. Aoi, one of the game's two new characters, has a stage set in a bamboo forest clearing, with snow falling. And, as we stated in NG 18, details are everything: Jeffry's stage even comes complete with seagulls in the air.

There's also an enormous desert stage — with no visible boundary. Who this area belongs to was unknown at press time, however, not only did each combatant leave trails in the sand, but body-sized depressions after a fall, which were erased over time by the light wind blowing through. This

Model 3 Tech Specs

Virtua Fighter 3 is powered by Sega's new Model 3 arcade board. It's the most powerful piece of videogame hardware ever assembled. Here are the tech specs:

• CPU: PowerPC 603e
• Resolution: 496x384 or 640x480
• Graphics: Geometry engine averaging 1 million polygons/second
• Renderer: 60 million pixels/second
• 24-bit textures
• Micro-textures
• Z-buffering
• Multilayered anti-aliasing
• Trilinear interplolation
• Shading: High-specular Gouraud, fix, and flat
• Four spotlights
• Special effects: Fog, Zoning, 32 levels of translucency

One of the quickest fighters, Pai, attacks with strong kicks (left); Aoi takes on Lau in the same manner (center); Takaarashi, the sumo fighter (right)

Yu Suzuki, head of the
Virtua Fighter 3 project

Yu Suzuki predicts that in spite of the complex range of character movements, *VF3* is easier to learn and more intuitive to play than *VF2*

underscores one of the biggest differences between *VF3* and previous entries: those famous, lofty "Ring Outs" have been partly eliminated in favor of a more tactically challenging and realistic approach to terrain.

One can't help but notice that the playable area of the subway platform in Pai's stage extends right to the edge of the tracks, and trains do come rumbling through at intervals — certainly being thrown off the platform just as the 5:15 pulls into the station won't be healthy. And, rest assured, characters appear to have no difficulty following the uneven surfaces, but it's clear that jockeying for the high ground is a key strategic element. Obviously, a combatant at a higher elevation would be able to concentrate on low- and mid-level attacks, which would be of greater benefit to some characters than others. Finding ways to utilize the backgrounds to maximize each character's abilities, while minimizing those of your opponents, adds such an element of depth, the mind boggles.

According to Yu Suzuki,
VF3 is more than an updated version of *VF2* with better graphics. For all intents and purposes, AM2 has gone back to the drawing board and rebuilt the game from scratch, bringing it even closer to Suzuki's dream of a realistic martial arts game. *VF3* closely follows real-world physics, eliminating the gravity-defying high jumps of previous entries, and adding the game's most notable new feature, a fourth button.

Known as the Escape button (*kawashi* in Japanese), its purpose is to enable the player to change position in three dimensions. Escapes can then be followed by a variety of attacks, which can inflict heavy damage to an opponent's unprotected back or side.

This kind of approach has been tried before with limited success — most notably in Williams' *War Gods* — but Suzuki predicts that in spite of the complex range of character movements, *VF3* is easier to learn and more intuitive to play than *VF2*. While many of the characters' moves remain the same as before, new command sets have been optimized and simplified as much as possible, enabling beginners to jump right in, but rewarding advanced players who can learn more complex combinations of moves.

In addition to Aoi, a new
female character who practices akido and has essentially served as *VF3*'s poster girl, more is now known about the game's second new character, Takaarashi, a sumo fighter. Apparently, early concepts had him brawling in much the same fashion as *Street Fighter II*'s E. Honda. However, Suzuki and AM2 were unhappy with results — according to sources, his enormous bulk made him look mildly ridiculous when throwing punches and

Takaarashi seems like he could fall into the slow but dangerous big guy category
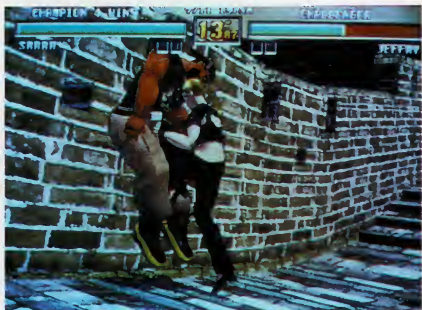
How cool are interactive backgrounds? Well, imagine pounding Jeffry into a brick wall and then taking your knee into his belly. Sound cool?

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This clash of the titans seems a little unfair at the moment with Takaarashi obviously taking the upper hand and weighing in heavier

spin-kicks. His style now more closely follows traditional sumo techniques with a mix of akido, giving him a style more suited to his appearance, like that of Wolf, with lots of grapples and throws. At present, most of the tweaking being done by AM2 is in simplifying these techniques in order to make them usable by beginners, since too complicated a set-up would drive off potential sumo devotees.

Other additions include an extra costume for each character which can

Takaarashi's style closely follows traditional sumo techniques with a mix of akido, giving him a style more suited to his appearance

be chosen by the player. Shun Di, for example, has a new set of duds, very similar to Lyon's, which are a bit more hip than his usual peasant outfit, and Aoi can exchange her kimono for a mini-skirted Japanese schoolgirl outfit. It's even rumored that the T1000-esque Dural will come in a choice of silver or gold liquid metal.

As one of the most hotly anticipated titles in the history of videogames, *Virtua Fighter 3* has a great deal to live up to.

Fortunately, the extreme attention to detail, combined with the raw power of the Model 3 graphics board and AM2's superior talent for designing arcade wonders, mean that *Virtua Fighter 3* does not appear to disappoint on any level.

The cast characters of Virtua Fighters (clockwise from left): Takaarashi (new), Aoi (new), Shun Di, Pai, Kage, Jeffry, Jackie, Lau, Sarah, Wolf, Akira, and Lyon. Each is newly created with a mix of familiar and new fighting moves

X**Car**

Format: **PC-CD ROM**
Publisher: **Bethesda**
Developer: **Mediatech West**
Release Date: **November**
Origin: **U.S.**
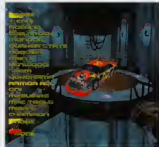
When Indycars aren't fast enough, there's always experimental high-tech "X-cars"

Between *Indycar II*, and *NASCAR Racing*, anyone would think there are more than enough racing sims on the market, but Brent Erickson, division director at Mediatech West and lead programmer for *XCar*, doesn't think so. "I'm an extreme racing buff," Erickson says. "And the thing about NASCAR or the Indycar circuit is they all have specific rules that limit what you can put on a car. The focus here is on the sport prototypes that manufacturers build to test new technologies — sort of 'unlimited class' racing."

To this end, not only is the choice of cars spread over a wide range of manufacturers and styles, but are customizable to a degree rarely seen in a racing sim. "You can change pretty much everything," Erickson continues. "of course, there are lots of options for the engine, but you can also alter the brakes, for instance, not just for bias, but switch from carbon fiber to metal-metal brakes, choose different fuels: high-octane gas, or methanol, or nitro mixes. Just about anything!"

The game contains five

real tracks, but also five fantasy tracks designed to enable players to take maximum advantage of the high-performance cars, such as the high-speed D-oval, the corners of which are highly forgiving with quarter-mile straight-aways for high-top speeds. "We've had guys get their cars up to around 240 mph," jokes Erickson.

The emphasis, however, is the extreme muscle of the cars. "I contacted a lot of auto modifiers, like Shelby, which is building a new World Sport car with an engine using high-tech ceramic components. Then there are super cars like the Porsche 959, which manufacturers build so they can race them in a certain class, then sell them for $1.5 million." **ng**

"The focus here is on the sport prototypes, Xcars, that manufacturers build to test new technologies, sort of 'unlimited class' racing"
Brent Erickson, Mediatech West

With the unlimited nature of the cars, players can modify everything from fuel mixes to chassis materials, then roar onto any of 10 tracks

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World Series Baseball™ II has all 28 Major League™ ballparks, replicated in 3-D detail so accurate you can practically see

the peanut shells in general admission. Not to mention all the teams, players, rosters, stats, ratings – heck, even

their photos as they're announced at the plate. It's all here. Along with five different ballpark perspectives, off-the-bat

camera angles, CD stereo sound. You know, icing on the cake stuff that makes World Series Baseball™ II so real, you expect to see commercials between innings. But you

won't. Thank goodness. For more info, visit Sega's web site at http://www.sega.com or on Compuserve at GO SEGA.

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–VideoGames, June 1996

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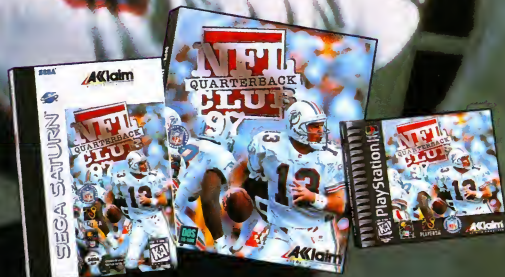
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iM1A2 Abrams

The company that prides itself on making the most authentic PC simulations on the market brings its expertise to *iMIA2*

M1A2 Abrams offers lots of hardware to play with and big, beautiful explosions. Tank games just don't get much better than this one

Format:	**PC-CD ROM**
Publisher:	**Interactive Magic**
Developer:	**Interactive Magic**
Release Date:	**November**
Origin:	**U.S.**

W hen he was at Microprose, Arnold Hendrick designed one of the most unique tank sims ever produced, *M1 Tank Platoon*. Now with "Wild Bill" Stealey's Interactive Magic (see NG 21), he's back at work on the next-generation tank sim, *iM1A2 Abrams*, with the same twist that made *Tank Platoon* so memorable.

"What we're trying hard to accomplish here is to simulate the platoon commander and company commander's role from inside the M1A2," says Hendrick. "You run a squad of four tanks and can control the action from any position in any of the four tanks. Or you can move up a level and run the entire column — call in artillery or air support — and switch from any position on the fly."

The game includes more than 100 mission areas divided among three

main campaigns: Bosnia, the Persian Gulf, and Russia/Ukraine. "The battlefields can't change because they're based on actual terrain, so you might see the same field twice," Hendrick explains. "But the enemy selection and deployment of troops is done by extensive automated tables and algorithms, the result of which is that you'd have to be incredibly lucky to see the same troops on the same field more than once."

Also, as with all Interactive Magic titles, the game is fully networkable. "We'll have a cooperative mode, where one player is the platoon commander, and other players take one of the other tanks within the platoon. And, of course, we should have a head-to-head mode, four vs. four, each in a squad of M1's — a little unlikely unless another Civil War breaks out." **ng**

> "We're trying hard to simulate the platoon commander and company commander's role from inside the M1A2"
>
> **Arnold Hendrick**, designer

How authentic is *iM1A2*? According to Hendrick: "Of course we're in contact with General Dynamics, and they've been very helpful. I have many contacts in the U.S. military, including a Master Gunnery Sergeant who's training the Saudis on the M1A2. This is as close as we can get without going after classified stuff"

Players can view the action from any position in any of the four tanks

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Iron & **Blood**

Whatever might happen with Matsushita's M2, Take 2 Interactive's AD&D-licensed, 3D brawler is forging new ground

A brawler with fantasy characters, *Iron & Blood* carves its own path

Originally known as *Ironblood,* Take 2's 3D fighting game was intended as a debut title for 3DO's M2 (NG 10). Funny thing is, it probably still will be, but in the meantime, the game has undergone a few changes: The addition of TSR's overworked Advanced Dungeons and Dragons Ravenloft license has enabled the fleshing out of its generic fantasy design and backstory, and, of course, the title has been revised.

Otherwise, the game is much the same. "We'd always intended to bring the game out for PlayStation," explains Rick Hall, *Iron & Blood*'s creator and producer. "When we came up with the idea, we talked to Sega, Sony, and 3DO, and, in fact, we began PlayStation development first because it's the easiest machine to work with. But since 3DO approved it first, that's

Members of the Philidelphia chapter of The Society for Creative Anachronisms were the models for the game's motion capture scripts — so where did they find an 8-foot giant with an axe?

what we began telling people about."

The game is structured around a fighting campaign — players choose a team of fighters, work their way through all 16 characters and four bosses, improving their skills, gaining new powers, and becoming stronger. Smartly, characters can then be saved to memory cards and used against other players' characters.

"With martial arts

characters, you wind up getting a lot of martial artists and motion capturing them. And since our characters are medieval, that wouldn't work. We wanted to do something different, so we got in touch with the Society for Creative Anachronisms, a group that fights with medieval weapons. They gathered the experts for us and we used them for our motion capture.

"There are a lot of big guns out there and we noticed everyone's games are martial arts-based, but there weren't any fantasy-based fighting games. I'm a big D&D fan, so I thought that would be fun."

The abundance and variety of characters and weapons is more than respectable: 16 characters and four bosses, plus an experience-based system that adds new moves as the player wins each new battle

Developing for M2

Rick Hall, *Iron & Blood*'s creator and producer, spoke to Next Generation about development on M2.

"After Matsushita bought M2, they made a few changes to the hardware and operating system, and they've changed the graphics pipeline to something that's faster and more efficient. When that's done, we'll have to rewrite the engine a bit to make it fit the new pipeline.

"But the main advantage [in developing for M2] has to do with things like M2 having a quad-speed CD and 8 MB of RAM. And considering that Matsushita hasn't made it clear when M2 will be out, we'll probably be able to beat the machine to market, anyway."

ng

25 grisly minutes of full motion 3D animation. Slaughter your enemies as a Vampire then morph to a wolf, escaping into the dead of night.

Butcher villagers or turn them into festering pools of decaying flesh with one of 22 demented magics. It will take you more than 100 hours of adventure to destroy those who damned you, but you'll get them. Every last bloody one.

ng alphas

Virtua Cop 2

AM2's popular cops 'n' robbers series has resulted in a second stunning coin-op. But is the formulaic sequel different enough for Saturn fans?

Better texturing on buildings and characters provides *V-Cop 2* with more detail

In *Virtua Cop 2*, the baddies don terrorist-style ski-masks rather than Reservoir Dogs-style suits and ties. Apart from that, little seems to have changed in the overall graphic look of the game. The city level (above right) looks to be an exciting and immersive location, though

With *Virtua Fighter 2* and *Virtua Cop* still riding high in the Saturn charts, it was hardly surprising to discover that Sega is well on its way to completing a Saturn version of *Virtua Cop 2*. The question is, can the sequel build on *Virtua Cop* without losing the original's compulsive simplicity?

In terms of structure, the designers have kept things uncomplicated, using the same three-stage layout as *V-Cop*. Only the first phase — a hectic chase through the streets of Virtua City — has been revealed, but if the rest of the game mimics the coin-op sequel, this should be followed by a ship-bound shoot out (the baddies are on board a pleasure cruiser), and an underground slaughterfest in which players have to gun their way through subways and dark tunnels to get to the baddies' lair.

One addition to the original game's straightforward layout, though, is that at certain points the player will be able to choose a route from two paths. This should provide a little more incentive to go back and play again once the game has been completed — an

Format:	**Saturn**
Publisher:	**Sega**
Developer:	**Sega AM2**
Release Date:	**TBA**
Origin:	**Japan**

element seriously lacking in *Virtua Cop*. Other additions to gameplay include a section where the cops hop on board a police van and chase through the streets tailing criminals — a fast and frenetic section accentuating the TV-cop show feel of the light-gun game.

Graphically, this early version hasn't advanced much from its predecessor, though the texture maps are neater and the city level provides a more immersive gaming arena: players feel as though they are storming through the city.

Virtua Cop 2 doesn't seem to be a major departure from the original. It is, however, an important release for Sega: The *Virtua* series has become Saturn's software flagship, and if the machine is to continue gaining ground on its rival, it will need another batch of killer apps of this kind. **ng**

It's a familiar scene: civilians flee in panic while caught in the cop/baddy crossfire

The first stage of *Virtua Cop 2* has a great car chase, but can it match the fast coin-op version?

Rocket **Jockey**

Rocket Science is back with a whole new bag — and one of the more unique and interesting games of the year

Format:	**PC-CD ROM**
Publisher:	**Rocket Science**
Developer:	**Rocket Science**
Release Date:	**November**
Origin:	**U.S.**

Nothing beats the sadistic pleasure of dragging another rider around by your cable, and nothing is more frustrating than being dragged yourself

Almost two years ago, Rocket Science grabbed lots of headlines as the new paradigm of game development — big budgets and expensive FMV were the rule of the day. Trouble was, the games themselves, *Lodestar* and *Cadillacs and Dinosaurs*, well, they pretty much sucked. Now, we're told, here comes the "new"

Our top ball stealing method? Pull the other guy off his rocket, with extreme prejudice

Rocket Science, determined to avoid the mistakes of the past.

Frankly, if *Rocket Jockey* is any indication, welcome back to the fold boys.

There's never been a game exactly like this. Really. The concept is simple yet quite bizarre: in a retro-future which looks like 1938, the world's most popular sport

involves flying around an enclosed arena on rocket cycles, shooting grappling cables at other riders. The rockets bear more than a passing resemblance to a Wile E. Coyote contraption, and indeed, when a rider is hooked and dragged around the arena, belly laughs are common.

The game includes three different types of play: Rocket War, a straight-up death match between six jockeys; Rocket Racing through a deadly obstacle course; and Rocket Ball, a kind of rocket-powered soccer in which the grappling cables are used to hook a ball and swing it into the goal. Since the rockets are extremely fast but not too maneuverable, the cables have other uses, such as grabbing upright poles for making tighter turns, and they can be strung between poles to clothesline opponents — a rather satisfying tactic.

The pace is fast, it controls extremely well, and it's an absolute ball. With a few more unique, fun titles like this, Rocket Science might just turn out to be all it was supposed to be after all. **ng**

The grappling hook physics may not be 100% accurate, but they work well in the game

Top Gear **Rally**

For those wishing to make a comparison between the power of the Nintendo 64 and its stablemates, the Saturn and PlayStation, a driving game in the

Format:	**Nintendo 64**
Publisher:	**Kemco**
Developer:	**Boss Games**
Release Date:	**Spring '97**
Origin:	**U.S.**

style of *Ridge Racer* or *Sega Rally* would appear to be a fair litmus test. *Top Gear Rally*, the first of two N64 titles on their way from Japanese publisher Kemco, is thus poised to be the recipient of a tremendous amount of attention.

The game is still in very early in development — indeed, these shots are from an SGI version running under emulation — but Kemco's influences are already clear, with rally-like courses that, on the surface, ape Sega's popular title.

There are presently two vehicles to choose from — a Porsche and a nondescript off-road truck — but Kemco aims to include a broad selection of selectable modes of transport.

Kemco's *Top Gear Rally* uses courses based on themes that will be familiar to seasoned driving game fans, with sand- and snow-drenched driving levels

To avoid scenery "pop-up," *Rally*'s developers are implementing fogging on the tracks (of which there are three).

A rally theme will obviously appeal to Nintendo's younger target audience than a straight-laced F1 sim, and if its coding equals its looks, *Top Gear Rally* could serve a valuable role in the N64's line-up. **ng**

Fogging effects are being used to combat 'pop-up', but their appearance will also enhance the game's clever headlight routines

Blade and **Barrel**

Format:	**Nintendo 64**
Publisher:	**Kemco**
Developer:	**Software Creations**
Release Date:	**1996**
Origin:	**U.K.**

Along with *Creator*, the "life sim" to be published through Nintendo, U.K. developer Creations is known to be working on at least another two N64 titles, the first being *Blade and Barrel*.

The player must fly helicopters or drive tanks in a combat sim taking place across a variety of
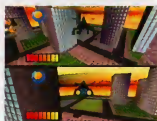
Blade and Barrel's split-screen mode will most likely force a trade off in the game's level of detail

terrains including deserts, factory sites and towns, and features a gaggle of enemies, both of this world and alien.

Blade and Barrel is an out-and-out action title. Set over more than 20 levels, the objective is pure destruction; a simple scenario enhanced by various power-ups (missiles, shield upgrades, repairs and speed-ups) and a focus upon multiplayer gaming.

Making use of N64's unique input capacity, the game enables up to four players to take part simultaneously, the screen being divided as appropriate. With more than two players, it won't be possible to control an individual vehicle, however — one player will

The finished *Blade and Barrel* will feature two types of both helicopters and tanks

steer and the other fire.

Although it's only 40% complete, *Blade and Barrel* currently lacks the visual flair of *PilotWings 64*. But Kemco promises the finished version will be more attractive, and the multiplayer capability alone should ensure the avid interest of many a gamer. **ng**

The entire staff of Criterion Studios pose for Next Generation in 1950's garb. The development team dressed up specifically for the shot, which took an entire day to refine. The man smoking the cigarette (left) is Simon Meldrum, programmer on *Scorched Planet*. The gentleman sitting on the suitcase is David Lau-Kee, managing director, and Jonathan Small, head of game development, is the gentleman reading the book with his hand in his pocket (right, in the background). Jude Edginton was the photographer

Criterion Studios

It has the technology. It has the backing.
And it has some peculiar ideas concerning
life beneath the waves. **Next Generation**
meets up with Criterion

There's a current trend
in videogaming for
commercial
conglomerates to
attach the taglines
"interactive," "new
media," or "-soft" to their names and
"get into" videogames and
multimedia. They then seem to treat
electronic entertainment as just
another commodity, bringing neither
inspiration nor talent to their new
discipline. Canon, however, took a
smarter, altogether more promising
route — it formed Criterion.

When asked to set up a European
research and development center,
David Lau-Kee, then a staff man at
Canon Research, created Criterion
Software, of which he is now
managing director. The route from
designing technology through to
graphics engines and then games is
best explained by Lau-Kee: "The work
I was doing involved interactive 2D
image processing. As an extension to
that, we were looking at 3D image
processing, which in turn led to out-
and-out 3D graphics."

The long-term view for
Canon was to develop multimedia
tools — to build up a technological
base on the software side that would
reap rewards over the next decade.
But quickly the technology and talent
was turned over to entertainment, as
Lau-Kee explains: "The game thing is
more of a Criterion than a Canon
thing. As well as interesting us as
individuals at Criterion, games are
where the leading edge is at. If you
want to see the best use of 2D, 3D,
image processing, sound, then it's all
in games. And if you want to be ahead
in 10 years time, then you've got to be
up on games."

Criterion Software first launched
its development tool, RenderWare, in
1993. A C library offering fast 3D
texture-mapped graphics and slick
realtime rendering, it's used by more
than 800 developers worldwide,
including Intel, SGI, and Netscape, as

ng alphas

Sub Culture, announced only months before completion, looks set to look and even play better than Bullfrog's long-awaited submarine-aqua adventure, *Creation*

Criterion's *Sub Culture* development team, here seen taking their propensity for water-based action perhaps just a little bit too far...

well as having an almost complete dominance of the PC CAD market. At its launch, Criterion produced a prototype demo of its technology, called *CyberStreet*. Light on playability, it offered a tantalizing glimpse of what could be done with its software, within a realistic 3D world with high-quality perspective texturing and complete freedom of viewpoint. The other "flagship" releases were developed by 47 Tek and were, sadly, pretty diabolical. The efforts of 47 Tek to create true 3D fighting games in the form of *Sento* and *Creep Clash* showed everything that was wrong with rendered graphics two years ago. Smooth, shiny forms in which you could count the shapes went through a pitiful series of moves with

fantastically disappointing results.

There's something about developing your own proprietary set of 3D routines. You put them on a pedestal. You admire them. You make money from them. But it's never really enough. Engine designers watch other game developers and can't help but feel they could do a better job.

If you want to see the best use of 2D, 3D, image processing and sound, then it's all in games

Argonaut couldn't resist designing a game or two to showcase its BRender libraries, turning out the entertaining *FX Fighter* and the poor *Alien Odyssey*. Criterion Software felt much the same way. In short, Criterion needed something much more impressive to put its name to.

That's why, in January 1996, the Guildford, U.K.-based tools house launched Criterion Studios. Already employing some 35 people, the studio has three projects lined up for this year alone, offering something that just a graphics engine never could — playability and a compelling storyline. *Scorched Planet*, *Sub Culture*, and *Aqua'Tak* are coming.

Scorched Planet is looking strongest in the Criterion crop — a game which, for all its fancy 3D trappings, has its feet firmly rooted in the Williams coin-op classic, *Defender*. The similarities between the two are

CRiterion
Studios

Criterion, which was formed in December 1993, is a wholly-owned subsidiary of Canon

The many levels in *Scorched Planet* certainly look busy and packed, but whether anything lesser than the most powerful modern PCs will be able to handle this amount of detail efficiently is certainly open to speculation. Still, the creature's shadows are especially impressive

clear, as Lau-Kee reveals: "The ancestry owes a great deal to *Defender* — in terms of some of the emotions we were trying to drag out of players." The game puts the player in the cockpit of a morphing vehicle on a rescue mission to save the last human colony from alien attack. The planet in question goes by the name of Dator 5 — a planet which, unfortunately, has found itself in the migration path of an alien race called the Voraxians. Swooping from a mothership and plucking unlucky humans into the sky, the player's mission is to recover the little bods and carry them to a teleport gateway for escape offworld.

The vehicle the player gets to pilot in *Scorched Planet* has two very distinct modes. Airborne, players are

Scorched Planet puts the player into the skies in a mission, based upon Williams arcade's classic *Defender*, to protect these fleeing citizens

in control of a nippy, weapon-packed, highly maneuverable fighter. Weaponry on offer includes lasers, sonic blasts, proximity mines, homing missiles and scatter lasers. The problem with the fighter, however, is that it's heavy on fuel — players will need something else to get around. Run out of fuel in the air and, after a last-minute verbal warning, players' ships will morph into a tank and do a comic tumble from the sky with top-notch dynamics. Leveling up, you find yourself at the wheel of an armor-plated tank. Although it moves slower, the tank banks and tilts as it roams the planet's varied surface and, of course, you get to fool with a more tank-like selection of weapons, including cannons,

Engine designers watch game developers and can't help but feel they could do a better job

grenade launchers, and machine guns.

So while most of the time you'll want to be zipping across the planet surface in the jet, you'll instead find yourself trundling along the ground angling your cannons skyward. "Originally the game design involved just the plane," explains Lau-Kee. "But then we found that you needed a slower craft when you were going through the cities. We tried to slow the plane down, but didn't like the way it handled — this led us to the tank

These wireframe models are for actual in-game objects, not prerendered scenes

concept. Being able to morph the vehicle midgame makes the whole thing much more transparent in terms of playing it and operating it." One control capability is the snap 180° turn you can pull by tapping the reverse key — not in there to enhance realism but a gameplay touch borrowed from vintage *Defender*.

Predictably there are both flying and ground-based enemies to take out. The designers have gone for an organic, animal style for all but the mothership, which has echoes of the massive flagship from the movie, *Independence Day* – quite a daunting prospect for first-time players. Best to take out the swarms of pterodactyls which, one-by-one, swoop to pick up

One control capability is the snap 180 degree turn — a gameplay touch borrowed from *Defender*

humans. The other skyborne enemies, including wasps, bats, mosquitoes, hawks, and dragons, are all out there to attack cities and you. The ground-based enemies will have a bigger variety of movement and attack habits. For example, the spiders cocoon humans, turning them into zombies after 15 seconds. These green zombies then run around infecting other humans, forcing the player to find some anti-venom.

Set across six different game worlds, including volcanic, ice and agricultural varieties, and offering fully texture-

Some of the fire effects are quite spectacular (volcanic eruption, top). Clever texture mapping ensures the alien atmosphere of the planet is realistically portrayed as the craft flies above

mapped terrain with undulating water, enormous depth of field (eschewing the usual mist effects on the horizon) and the ability to be played in SVGA 640x480 mode, *Scorched Planet* is looking decent.

Criterion Studios'

second original game, *Sub Culture* (formerly *Dive!* in the U.S.), casts the player as a quarter-inch-tall character who lives beneath the sea, out to save two fighting races — who share your size — from each other and then from the human race. It's earth-dwellers who are firmly cast as the bad guys — wanton polluters wiping out marine life, creating strange mutated fish, and choking the water-people's food chain with dangerous toxins.

A free agent with affiliations, though no loyalty to either tiny clan, the player is expected to enact missions for both sides, trying to bring peace and alert the human race to its pathetic conduct.

Piloting a minisub complete with spotlights, players start out exploring the sea base, stuffed with landmarks, rock formations, caves, abysses and tons of garbage. The realtime rendering of the underwater world is very impressive, with the aquamarine lighting stretching RenderWare's abilities and Gouraud alpha channel rendering used for the light cones of spotlights and transparency effects.

The company's third game

could still go through some major changes before its release — while slated for late '96, it'll be a small miracle if Criterion gets *Aqua'Tak* finished in time. Putting players in the seat of a futuristic, tooled-up power boat in a race-with-guns across rivers and lakes, *Aqua'Tak*'s power-up and racing structure will inevitably bring comparisons with *Wipeout*, but the recently enabled wave effects, with wakes behind boats that'll cause your boat to list and lurch, suggest that Nintendo's imminent *Wave Race 64* is a better example for comparison.

Criterion Studios is definitely an organization to watch. Canon hasn't just gone through the motions of setting up an "interactive division," but instead designed groundbreaking videogame technology first, and then staffed a development arm with die-hard game addicts.

A philosophy that Next Generation strongly endorses.
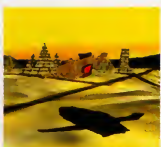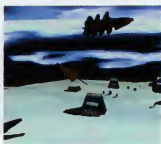
One neat twist to *Scorched Planet*'s gameplay is the ability to convert the jet plane into a roaming tank

AMATEUR!

Altitude. Attitude.
(Achieve a safe, unnatural high.)

Take a flying leap into *Jumping Flash! 2* the fantastic world of Robbit on his newest quest to save the universe. Achieve an entirely unnatural high as you single, double and triple-jump your way through the wildest first-person perspective 3-D gaming experience imagined!

Conquer the sequel to "the most innovative game of the year"- only on the PlayStation™ game console.

Race with 35 of the fastest, most maniacally-aggressive drivers on the paved planet. (The only thing you'll lack is a fireproof body suit.)

26 cars perfectly mirror their real-world counterparts. If you plow into a sidewall, you better count on a pit stop and collision repair.

SEE MONTE CARLO.
AT A LEISURELY 200 MPH.

Guitar gurus Steve Vai and Joe Satriani provide the high-octane road tunes. (Playable in mono, stereo, Dolby Surround or Q-Sound.)

Trees, buildings, grandstands and surrounding scenery added from over 100 hours of video footage. (Sorry, winner's circle bimbos not included.)

Theme Hospital

Format:	**PC CD ROM**
Publisher:	**Electronic Arts**
Developer:	**Bullfrog**
Release Date:	**November**
Origin:	**U.K.**

Amid rumors that Peter Molyneux is about to quit, Bullfrog prepares to unleash yet another first class business simulation

Pop-up menus present the game's options. Should you buy a computer or a new doc?

Earlier this year, when it looked as if the entire software industry had become irreversibly obsessed with 3D graphics, *Civilization 2* came out, scored top ratings everywhere, and proved that, yes, a game doesn't have to be in 3D to be brilliant. Now, just when it looks as though the software industry had forgotten this simple lesson, *Theme Hospital* may just remind them.

Like its predecessor *Theme Park, Theme Hospital* is a light-hearted business-management game. Players begin with a set amount of money and with it they have to buy enough land, doctors, and equipment to set up a small country hospital. This establishment must then be run with profitability in mind: to make more money, players can try to find the cure to major diseases (testing their concoctions on unwitting guinea pigs/patients) or they can cut expenditure by hiring student doctors instead of experienced veterans — both lines of action potentially courting disaster, of course. If by some miracle any player manages to turn their hospital into a money-making machine, they are promoted and go on to administrate for progressively bigger health-maintenance organizations.

Running a hospital might not sound like a laugh-a-minute activity, but Bullfrog, with characteristic disregard for reality, seems to have injected much humor into the scenario. There are few real ailments in the game, so patients suffer from things like "bloaty head," "lack of fashion sense," and "hairyitis," all of which are self-explanatory. Watching these poor souls wandering around the gorgeous high-resolution hospital buildings is most entertaining, and the fact that there

Patients suffer from things like "bloaty head," "lack of fashion sense," and "hairyitis"

In *Theme Hospital*, players design and build their own hospitals then watch as patients pour in. Luckily, there are no politics involved

are more than 1,000 different characters in *Theme Hospital* should keep the novelty aspect intact.

Bullfrog has said that, throughout the game, it will be possible to refer highly infectious patients to competitors' surgeries — the sort of underhand move which really makes these games worth playing over a LAN.

If any company can produce a marvelous game from the least promising or difficult-looking materials, it's Bullfrog.

Cartoony prerendered scenes spice up the graphics, but what is this doctor about to do?

Tail of the sun
Wild, Pure Simple Life

ArtDink strikes again, with another genre-busting PlayStation title. But will American gamers want to play it?

In pursuit of the elusive mammoth (and its accompanying tusks) our hero encounters a fierce hippopotamus
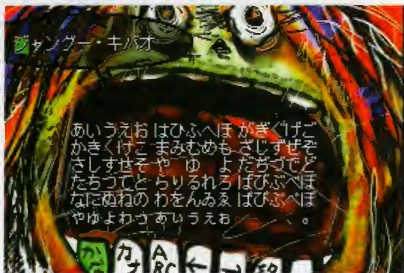
Supposedly, the object of the game is to collect enough tusks to build a tower to the sun. But we just like wondering around and hitting things...

Format: **PlayStation**
Publisher: **Sony**
Developer: **ArtDink**
Release Date: **Out now (Japan)**
Origin: **Japan**

The objective in *Tail of the Sun* is simple. You're a caveman or cavewoman and you're trying to build a tower, out of Mammoth tusks, to the tail of the sun. What makes the game totally cool is the fact that you can.

A sort of spiritual sequel to *Aquanaut's Holiday* (except this one has a point), *Tail of the Sun* is a very open game. Players have full freedom to run around the world, picking food off the ground and eating, killing everything you come across, and then eating it (meat good!), and sleeping under the stars (and then having something else to eat), all with a view to killing the occasional mammoth and building your tower of tusks.

Along the way, you may

meet and procreate with other cave people (important, since you'll probably go through more than one

caveman to get that tower built), find cultural power-ups that provide high-tech weapons (like, erm, clubs) and discover monoliths that grant special powers. And that's about it – except sometimes it snows, and sometimes it rains. And sometimes you'll fall asleep.

Considering its graphically simple 3D world, you may think there isn't much to *Tail of the Sun*. Until you play it, that is. This is one of the most immersive games we have seen yet on PlayStation. The explorable world is massive (hence the simple graphics), the combat has the right level of challenge (it requires both quick reactions and strategy) and watching your caveperson run around, eating and smashing is just plain fun.

Is it realistic? Not at all: You can run up mountain faces, carry trees on your head, your single character actually represents a whole tribe, and a game year passes about every ten minutes. But it has a simple charm that enables it to become greater than the sum of its (admittedly odd) parts.

A single game like this can fulfill the promise of next generation gameplay better than a hundred cookie cutter 3D shooters or "me too" fighting games.

Sometimes it snows. Sometimes it rains. Sometimes you'll fall asleep

Various food substances strengthen various body parts. Just eat everything

Pick up new abilities and learn new skills at the various sacred places

ng

139

CMDR: ZOD

GET OFF YOUR ASS,
PRINCESS.
THIS IS WAR.

Violence. Explosions. Profanity. It's a
game designed to become an obsession.

Drink beer, visit exotic lands,
kill the inhabitants.

Amazing Artificial Intelligence
plays like it's got one. (A big one.)

Assault Suits
Leinos 2

The evolutionary path of Japanese sideways-scrolling shoot 'em ups has led to an update of a classic example for Sega's Saturn

Leinos 2 demonstrates perhaps the most impressive use of Saturn's scaling abilities yet, with smooth reframing of the game's action

Format:	**Saturn**
Publisher:	**NCS Masaya**
Developer:	**NCS Masaya**
Release Date:	**TBA**
Origin:	**Japan**

Veterans of Super NES Valken will already be familiar with NCS' love of juicy explosions — Leinos 2 features similarly effective varieties (top)

Those familiar with the Super Nintendo's vast back catalog of software will no doubt fondly recall a release from 1993 called Assault Suits Valken (or Target Earth, as it was known when it was released later in the West). Packed with robots and combat exoskeletons, it was the game that introduced many U.S. gamers to classically Japanese design values — not only because it was a class title looks-wise, but also because it overflowed with action and atmosphere.

It's little surprise that a successor should turn up on Japan's favorite 32-bit console. Assault Suits Leinos 2 (in actuality a sequel to the ancient Genesis

title, Assault Suits Leinos, another NCS title) is presented in a very similar style to its forebears, with action viewed strictly from the side.

Set on Earth in 2120, the game presents the struggle of a band of 12 teams of former convicts as they battle with feuding factions over a famine crisis. It's classic left-to-right scrolling stuff, with raw shoot-'em-up action at the top of the agenda.

One of the best aspects of Valken was its range of upgradeable weaponry, and this angle has been taken and expanded upon in Leinos 2. Starting out with three standard weapons — a cannon, laser, and missile — players will get the opportunity to use more than 20 types as they progress through the game. And it's the use of these weapons that exploits the game's biggest visual difference to its precursors — depending on the range of your elected mode of attack, the screen scales to frame the action accordingly.

Along with a choice of

weapons, players will be able to select from a range of armor styles, each type suited to protection from different forms of attack. Also, as players progress, they can use eight types of assault vehicle.

Perhaps concerned that this level of comprehensiveness might daunt the shooter novice, NCS has included two modes of play: automatic targeting, which brings enemies into your sights the moment they appear; and manual, forcing you to do the legwork yourself.

Saturn is home to more traditional 2D games than PlayStation, and the appearance of Leinos 2 reaffirms its place as the format of choice for gamers wishing to experience games that hark back to the days of 16-bit. **ng**

Anime-style characters make cameo appearances during the missions

Starting out with three standard weapons you'll get the chance to use over 20 types during the game

ng **alphas**

Blue **Ice**

A surreal puzzle game is the last thing a person would expect from the company that brought gamers *Wipeout*. But *Blue Ice* is just that...

Blue Ice features a series of strange puzzles, and the weird visuals are intended to reflect this surrealism. Hence, flying fish (left), people floating out of eyeballs (center), and spooky collages (right)

Psygnosis is a name more commonly associated with flashy 3D romps than obscure puzzle games, but *Blue Ice* definitely looks as though it will fall into the latter category.

At the moment the game is a bit of an enigma, its press release seeming to be more concerned with Tolkien-esque mysticism than game explanation. "See through her eyes cascading color illuminating the bleak existence of a forsaken nation," is how one of the in-game characters is described in it, perhaps perfectly illustrating why so few public relations executives go on to

Format:	**PC-CD ROM**
	Macintosh
Publisher:	**Psygnosis**
Developer:	**Psygnosis**
Release Date:	**October**
Origin:	**U.K.**

become poet laureates.

Garbled prose aside, it appears that the game is set in a surreal world called Icia, where players, with the help of two characters, Hope and Edward, must work their way through 30 levels of weird puzzles. Psygnosis promises a "unique, surreal graphic style coupled with a beautiful, atmospheric story," and it looks as though, when the puzzle section is over, the player progresses to an adventure section — again, however, details are cloudy.

Blue Ice looks interesting, but the question is, will it turn out to be a secondary project for Psygnosis? The company has, after all, made a strong 32-bit reputation with titles like *Wipeout* and *Destruction Derby*. What place is there in its A-list for a PC/Macintosh puzzler? **ng**

The game is set in a surreal world called Icia, where players must work their way through 30 levels of weird puzzles

The exact nature of *Blue Ice* remains a mystery. Could this title show a new experimental side to Psygnosis?

Not all of *Blue Ice*'s 30 puzzles are heavily graphics-based — some appear to rely solely on text. The exact nature of the game, however, remains a mystery

Advanced artificial intelligence lets you
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Network and modem options let you challenge
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your team after each season of play.

Network Play

Modem-to-Modem

4,500 Frames of Player Animation

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On Court Swivel Cam

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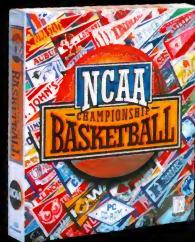
64 Division I Teams

64 Authentic Courts

Extensive Recruiting

March Madness℠

Final Four®

National Champion

Little Big
Adventure 2

Though it was an overnight legend on the PC a year ago, can the sequel —with beautiful new 3D graphics — rekindle that Gallic magic?

Through the use of texture-mapped polygons, Adeline has created a world of colorful and surreal charm. Although each scene takes nearly a second to render, this is not an arcade game — players probably will not notice the wait

I t is very rare for a game to make such an impression that it's still referred to as a achievement, even when technically well out-of-date. *Little Big Adventure* (retitled *Relentless* in the U.S.), with its isometric backgrounds and Gouraud-shaded characters is one of those games. A beautiful, surreal adventure set in a fictional world suddenly dominated by an oppressive force, *LBA* was a seminal PC title. It was not only an engaging adventure but also graphically stunning — even now the clean locations impress. For all these reasons, *LBA2* is perhaps the most desperately anticipated sequel since *Civilization 2* — and Adeline

Girls can't resist Twinsen and his stylish clothes

Format:	**PC, PlayStation**
Publisher:	**Electronic Arts**
Developer:	**Adeline**
Release Date:	**December**
Origin:	**France**

obviously has no intention of disappointing fans of the original.

The most striking thing
about the new title is its use of texture-mapped polygon landscapes. When the player is outside (internal locations are still viewed as bit-mapped isometric layouts), each scene is rendered with complex textures and up to 10,000 polygons — a far cry from the original. Of course, this would be agonizingly slow if rendered in realtime, as the

Though it's relatively cheery, parts of *LBA2* look moody and menacing

player explores and the camera pans around, so Adeline has developed an innovative control method. When Twinsen steps outside, the landscape is rendered for him in around a quarter of a second. He can then wander around in this view until he needs to switch camera angles (to see around a building, for example). To do so the player just positions Twinsen in the relevant direction, hits a key, and the new angle is drawn, again in a quarter of a second. This method can also be used to zoom into and out of the scene. Other new additions also include Twinsen's ability to drive vehicles, an element which Adeline's Frederic Raynal claims makes up an important element of the story.

Due to the new method of displaying external locations, coupled with the improved use of textures, the scenery in *LBA2* looks staggering. The game still employs *LBA*'s stylized simplicity, but now the basic shapes have been embellished with much greater realism, making for a compelling, clean, and artistic world.

Although Adeline's *Time Commando* turned out to be a disappointment, it is difficult to conceive of *LBA2* doing anything except charm the pants off anyone who looks at it. Adeline seems to have invested much character and humor into Twinsen and his world — just as Miyamoto does with Mario.

It's no wonder Nintendo's premiere designer keeps trying to get Adeline on board. **ng**

LBA2 **is perhaps the most desperately anticipated sequel since** *Civilization 2*

It looks as though there is a vast, diverse world to explore in *LBA2*, but Adeline remains firmly tight-lipped about the finer plot details

Fig. 1: Electric chair   Fig. 2: Gallows   Fig. 3: Guillotine

Where's the sport in that?

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Those of you smart enough to subscribe to **Next Generation** will have noticed the free CD bundled with this month's issue. Courtesy of Acclaim, this disc features an exclusive demo of Acclaim's upcoming game *Iron & Blood*. This page contains details regarding some of the game's special moves and strategies. For more information on *Iron & Blood*, check out the alpha preview of the game on page 121.

Thanks for subscribing to **Next Generation**. Your dedication enables us to keep up the standards that made you a subscriber in the first place — and this is just a small way of saying thank you for your support.

IRON & BLOOD

Instructions:

Set up your PlayStation game console according to the Instruction Manual. Make sure the power is off before inserting or removing a compact disc. Insert the Iron & Blood Demo CD and close the CD door. Insert game controllers and turn on the PlayStation game console. Follow on-screen instructions to begin.

TEEN T ESRB

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NYM PYMPLEE

COMBO HIGH: ↑ + ●, ↑ + ▲ + ●
COMBO MEDIUM: ● ■ ■
COMBO LOW: ↓ + ●, ↓ + X
MAGIC POWER: DEMONIC WHIRLWIND → ↙ ↓ ↘ → X + ■
ARCANE ABILITY: FIRE BELCH ← ↙ ↓ ↘ → ▲ + ●
SCARE ATTACK: UP RIGHT DOWN LEFT X + ■
LUNATIC CHARGE: → + ●, → + ●, → + ●
ANIMAL WHILE DOWN: → ← → ●
LIGHTNING ROD: ↑ + ■ + X

XENOBIA

COMBO HIGH: ↑ + ●, ↑ + ■
COMBO MEDIUM: ●, → + ■
COMBO LOW: ↓ + ●, ↓ + ▲
MAGIC POWER: SIREN CRY
↑ → ↘ ↓ ↙ ← ■
ARCANE ABILITY: SHIELD OF REFLECTION CONTINUOUS
IMPALE: → → + ▲
DOUBLE JUMP KICK: ↑ + ▲ + ●
ATTACK WHILE DOWN: → ← → ●
HIGH DIVE: → → + X

Ultima IX: Ascension

The single longest running series in computer gaming history moves into its 9th installment — but is this really the last one ever?

Format: **PC-CD ROM**
Publisher: **Origin**
Developer: **Origin**
Release Date: **spring '97**
Origin: **U.S.**

Early screens show off the detail and depth of *Ultima IX*'s completely 3D world. And you can safely bet that players can pick up, examine, and use every single item inside this peasant hut — Garriott's "total interactivity"

Brittania's Avatar is back one more time before moving to the next plane

Above ground and below, the world of Britannia is a seamless whole

Whether by name or by alter-ego, it's possible that everyone who's ever sat in front of a computer screen to go on an adventure (and certainly every reader of Next Generation) has heard of him. To some he's a fond memory from one of the first computer games they've ever played. To others he's a living legend who continues to entrance with each new game creation.

But to most people, Richard Garriott is Lord British, creator and benevolent ruler of the world of Britannia. The *Ultima* series has had a longer run than any other computer game series ever created, ever since Garriott sat down to hack out the original in 1979. "When I wrote the

first game, of course I had no idea there would ever be a second," he explains. "It wasn't until I got to the fourth I began to realize this was going to go on for a while — the money had actually been decent and I thought, 'hey, I can keep doing it.' It wasn't until we got to the seventh that I even started planning ahead."

Even so, Garriott has been committed to ensuring that every *Ultima* title is as technically advanced as possible, and *IX* is no exception, the gap between it and *XIII* affording a new take on RPGs. "Every *Ultima* before now has been either tile graphics or bit-mapped art, but this is the first one set in a true 3D, polygonal world.

"Now, there are a lot of 3D dungeon crawls out there, but the amount of

"The reason I wanted to close the era is so that, assuming we want to do an *Ultima X* (my current plan), it means we can start fresh"

Richard Garriott, Origin

Ultima IX is the largest **Ultima** title yet — an epic to mark the end of an era

polygons on screen is very minimal. To represent an entire world in 3D is a real challenge, especially when you're trying to represent not just one screen's worth of a world, but the surface and the whole underground area of that world in one continuous, seamless tapestry. It's a monumental problem, but that's what we've undertaken, and we think we've found good solutions.

"It's a seamless, huge world, with a lot of landscape and territory to cover, and of course, all the characters and creatures are all polygonal as well. So the camera can pan around, and we zoom in for conversation and then back out to cover the action. Coming up with the best camera angle to follow all this was one of the most fundamental problems, but we believe that we've found the right way."

And, unlike some designers, Garriott remains adamant about making his worlds as interactive as possible: "*Ultima* is really a role-playing game, it's a chance to live out an alternate life, and I'm a devout believer that you should be in control of every moment. My problem with, say, FMV is that as good as it ever gets, you still have branch points, and between those points you have no control; you sit there and watch.

"Our design goals were to not only expand into new areas, but also make sure we kept as many of the good feature sets from previous games as we could. For example, one of the things that really pleased us about *Ultima VIII* was the detail and fluidity of the animation. In *Ultima VII*, we loved the interactivity of the world, in the sense that every object could be used. From *Ultima V*, I'm trying to pull in the good vs. evil 'gray area,' kind of blurring the line between who's truly good and who's really bad."

But the big questions remain: After nine installments, has the series run out of steam? Could this be the last *Ultima*? "We mean the game's subtitle

literally — it's the Avatar's ascension beyond the realm of human mortality. It's the close of the trilogy of trilogies: the first three didn't have much to do with each other, they were, "Richard Garriott learns to program"; *IV* through *VI* were a backward-designed trilogy, in the sense that I tied them together as I wrote them; but *VII-IX*, the story of the Guardian, were a preplanned trilogy, and we had a definite idea of where we wanted to go.

"So, with *Ultima IX* we're not only closing the Guardian saga, we're also closing the Age of the Avatar. But as long as we're wrapping up back all the way to *IV*, we thought there's no reason we should leave out *I* through *III*, so we've been reverse engineering the history to include those games, and the whole thing brings to close what I call the Brittanian Era. This is truly an epic game, a quest that impacts the whole world, all of history on a profound level."

As with all great epics, closures are only mere beginnings in disguise. Garriott's plans don't seem to fall far from this line of reason.

"The reason I wanted to close the era is so that, assuming we want to do an *Ultima X* (my current plan), we can start fresh. It cleans the slate so I can feel free to use as much or as little of the previous history of *Ultima* as I deem suitable. As fond as I am of the Brittanian Avatar, it gives me a chance to start in a new place and build a completely new history. I'm extremely excited." **ng**
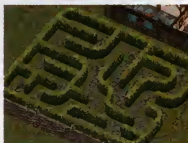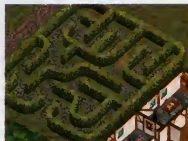
Players can rotate and zoom the perspective as necessary to keep track of the action

"**Ultima** is really an RPG, it's a chance to live out an alternate life, and I'm a devout believer that you should be in control of every moment"

Richard Garriott, Origin

"Who knows what evil lurks in the hearts of men? Only the Avatar knows" — or something. **Ultima** has always had a strong ethical center

(continued from **page 12**) It's obviously a technology that we know quite well and, as a publisher, we have a unique license with Matsushita — we're not subject to the same kinds of controls that everyone else is subject to.

So, should Matsushita be able to make a good market for M2, it would be a tremendous advantage for us. On the other hand, if they don't make a big market out of it, then we'll still have used it as a springboard to develop 64-bit properties which we could then take to whichever platform the customer chooses. That could be a PC using a 64-bit graphics chip, or a 64-bit Sony machine, or the Nintendo 64, or whatever else.

NG: How far advanced has your game development reached for M2?

Trip: We're way down the line on it. Some of the titles are good enough to show publicly now, although we haven't chosen to do that yet.

NG: And so far, your only definite publishing plans are on the PC and M2, is that right?

Trip: Yes, well those are the only ones we've announced. I would also consider the Internet as a platform in its own right, and we're certainly developing titles that are specific to that.

NG: How big a noise do you think you can make in the highly competitive PC game arena?

Trip: I think we know how to make good PC software and to bolster that, we've bought New World Computing, the company behind *Might and Magic* and *Heroes of Might and Magic*. So I think we have some cache in the market and we're making some stuff that is pretty good.

At the same time we view the PC market as a kind of tactical maneuver. It certainly doesn't make sense to me for us

to show up in 1996 and say, "We're here to make games for the PC," and just sort of march in and push other people out of the way. I don't see that as the approach at all. I just see it as one of the many arrows in the quiver.

In *The Art of War*, what Sun Tzu says is that if an enemy's army is at the top of a hill, you should never go and attack that hill. Instead you should go to the top of another hill and try and convince him to attack you.

The PC market is a fairly good hill. It's a nice size hill, but it's saturated with competition. The 32-bit hill has turned out to be nowhere near as big as everyone hoped and, to compound that, it's also pretty saturated. The 64-bit hill is way off in the distance, nobody's really focused on it yet. And, although it may look small, as you get closer it turns out to be really, really big.

We want to be one of the first on that hill. We have the money, the technology, the talent, and the time. So we have a good shot at it.

NG: How easy was it to explain to your shareholders that you'd attacked the wrong hill and lost a load of money, but that you now know which hill you want and could they bear with you while you go and attack that?

Trip: Well, of course the make-up of the shareholders has changed over the years. Now, the two largest shareholders in 3DO are Matsushita and me. I've put more money into 3DO than anybody else.

Generally, I would say that there was a lot of disappointment because we went out and said, "Hey, we're going to try and set a standard with this thing and we're going to try and humanize many of the more unhelpful aspects of this industry," and a lot of people thought that was great,

but it just wasn't to be. So there was a lot of disappointment about that and it caused a lot of people to jump off the bandwagon.

Frankly, at this point, I don't expect a lot of people to jump back on because I don't expect a lot of people to understand what we're doing, so we'll just have to go out and prove it.

NG: In the gaming market as it exists today, how do you think 3DO ranks against other publishers?

Trip: If you look at a traditional game company like EA, they're obviously much more mature than we are so they have tremendous brand strength, which we don't have, and tremendous distribution power, which we don't have.

But on the development side, I honestly think we are comparable in terms of our ability to make state-of-the-art games. The reason I say that is that although EA probably has around 800 people in development and we have just less than 300, all of ours are focused on next-generation products and platforms. EA probably has a lot of their people doing clean-up duty on older generations. So, in terms of looking forward, we're about as big as anyone out there.

But then again, software is just one component for us. On the hardware side,

we're going to continue to search for more and more ways to use our technology to leverage special, strategic relationships with manufacturers.

Frankly, over the next five to 10 years, I really don't look at Sony and Matsushita that differently. They're both huge companies and they're both going to be major factors in the market and I'd like to have a good relationship with them both.

Maybe the way I get a good relationship with Sony is by making a bunch of Internet stuff that they want to have run on their consoles, and maybe that's a way for me to convince them to let me have a better licensing rate. But I certainly don't want to be just another third-party publisher.

NG: Despite your obvious desire for dramatic diversification, is it safe to assume that straightforward retail sales of PC games will be the biggest part of your business for at least the next year?
Trip: Yeah, definitely.
NG: But that's not a situation you see as long term for The 3DO Company?
Trip: Well, you know, we'll take the yield from whatever piece of the market offers it. But in the long run, I don't think the PC is a mass-market proposition.

Even the most recent research suggests that there are a lot more households that don't want a PC than there are that do, and we're starting to get to a point in the United States where almost every home that has an office worker has a PC and the households that don't have office workers don't have any interest in PCs because they're expensive, they're hard to use, and they're mainly for business applications.

What those households are interested in is entertainment. But amazingly, they're also interested in the Internet because

every time they see an ad now there's a web address on it and they're beginning to feel that they're missing out. But they still don't want to spend the money or deal with the complexity that comes with a PC. That's why I think the next really big growth place for this market is when you can hook these three things, DVD, 64-bit games, and the Internet together.

And, by the way, there's no reason why this can't be a $299 product in two or three years time.

NG: So how far away are we from an integrated product boasting DVD, 64-bit gaming, and Internet access at $299?
**Trip:** Not far at all. If you look at DVD, it's coming out late this year or early next year and the introductory prices are going to be as low as $399 to $499. We also hear from Japan that the price will come down by about $100 a year, so that means you're quickly down to $299 or less.

If you then want to add a game format, then even though it boosts the manufacturing cost, you're also adding a royalty-bearing feature to offset that, so if you want, you can keep the price of the hardware the same.

So, by 1998, if this system has a higher price than $299, it will only be because the manufacturer wants to make more profit. It won't be a cost issue.

NG: If we look around at the current game market contenders, Sony, Sega, Matsushita, and Nintendo, would you agree that Sony and Matsushita — by virtue of the fact that they are both big consumer electronics companies and not just game companies — are the two that are best placed to deliver something like the DVD/Game/Internet box that you have been referring to?
Trip: They're the only two. I think, realistically, Matsushita's real shot at
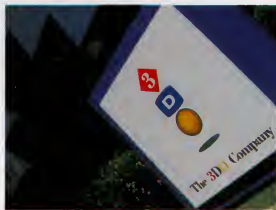
becoming a strong supplier of a game format depends on how well they can integrate DVD technology with M2.
NG: They don't seem in any rush to launch M2, or even talk about it.
Trip: That's true and let me tell you why that is. Over the last five years, everyone that has brought a new format to market has lost money — in most cases a helluva lot of money. So, whereas the rule used to be that if you have a new technology you should rush it out, now everybody realizes that doesn't work.

Matsushita realizes that it's not the timing but the quality of the launch that counts. You have to offer the right performance at the right price-point, and you have to have the right marketing and the right software from day one. And if you don't, you're better off waiting until you do.

Also, as a consequence of Matsushita waiting, they have been able to work with us to improve the product so that relative to what the hardware spec was a year ago, it's now a very different machine offering a much improved level of performance. And to us it sounds as if they're being very aggressive with their plans for pricing, their plans to move to DVD, and their interest in the Internet — so they're thinking about all the pieces already.

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NG: What's the official line on the launch date and price? We hear reports from Japan that they're aiming at under $300 from day one.

Trip: I've certainly heard that, but Matsushita hasn't said anything officially.

NG: What do you think are the chances of a 1996 winter holiday launch?

Trip: Again, there's nothing official as yet. Theoretically, it could be shipped this year, but there wouldn't be enough software to make it a really good launch. There will be enough by, say, spring next year.

NG: And is there any chance that it would be a DVD-based box straight away?

Trip: No, in that time frame you'd have to go with a quad-speed CD-ROM drive because the precise DVD spec was only finalized very recently — there was a bunch of copy protection issues that had to get sorted out. Anybody trying to launch a DVD game system would be looking at probably early 1998 as a reasonable launch date.

NG: So the M2 machine that emerges next year will be a CD-based platform going head-to-head with Nintendo 64.

Trip: That's a reasonable way of looking at it. Another way of looking at it is to say that it isn't going head-to-head with anything, that it's a proving ground in which you build up your software base, and you work out some of the kinks in manufacturing in preparation for the launch of a DVD version, which is your real shot at the big time.

NG: Apart from 3DO, where will the strong early titles for M2 come from?

Trip: Well, Matsushita has a deal with Williams. They can do basically whatever they want with the Williams product line on M2. They're also working with other coin-op companies in Japan. They're doing some stuff with Konami, they're doing

some stuff with Capcom.

Their strategy is to focus on coin-op titles and I think that between what we're doing and what they're doing — plus the movie component that will become relevant with DVD — that's a lot of software. There are additional third-parties above and beyond that, but that program hasn't really got into top gear.

NG: So the more traditional game publishers, the EAs and Acclaims, aren't really on board yet?

Trip: They're not all on board and they're certainly not all running at full speed, but a few are doing some development.

NG: After hearing quite a lot about M2 from The 3DO Company a year or so ago, we're now in a period when it seems to have fallen off everyone's agenda. When are you or Matsushita going to start making some noise again?

Trip: Well it's funny because from our point of view you have to remember that there was a time when we were spending money developing this thing called M2, but we weren't making any money from it, so we were out promoting it like crazy and looking for a customer. Once we had a customer and $100 million in the bank, we thought great, we can shut up now.

Plus there are now some limitations on what we can say. It's not our privilege to go out talking about the details of the product any more because it's their product. So, for instance, the changes that I mentioned that have been made to the spec in the last 12 months, it's up to them to talk about them in any detail.

Also, like I said, they're in no rush. They'd like to know more about Sony's 64-bit plans, they'd like to know more about where DVD's going and they'd like to digest the whole of the Nintendo 64 launch a bit more. Meanwhile, they're

keeping their powder dry.

From our point of view, it would be great if M2 is a big success for them, but on the other hand, even it it's not, we will still have made a huge profit on it anyway and we're diversifying our software business no matter what happens.

NG: What would you do if you were running Sony right now?

Trip: Where they really stand to make a lot of money is in the same place as Matsushita — on a DVD product that has 64-bit gaming and Internet capabilities. So what Sony ought to be doing is trying to get that product to market as soon they possibly can.

They should be building up an Internet software franchise and a 64-bit optical disc business that's multiformat, not tied to their own machines. They're doing elements of all those things, but I don't think they're in as big a hurry to get to the

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64-bit DVD stage as they should be.

3DO and Sega?

NG: Wouldn't M2 sell a lot better as a game machine if it had a big Sega badge slapped on it?

Trip: Well that's an interesting question for Sega because they're literally hemorrhaging money at the moment. And because of all their problems they've either shut down or restructured almost all of their international operations. And I think you've now got to question whether or not Sega still has the ability to be a major supplier of a new format.

Personally, I find it shocking that Sony outperformed Sega as much as it did. In the U.S., those two companies have had virtually the same price point, the same product features, and similarly attractive software libraries. Sega even had a six-month head start. Yet Sony outsold them by a ratio of about 5 to 1.

I think that what happened was a lot of consumers got fed up with Sega pulling the rug out from under their hardware so many times. You know, they were told, "Buy the 16-bit, now the Sega CD, now the 32X, and now we want you to buy the Saturn." And everyone finally ended up saying, "Screw You, Sega!"

It's going to be tough for Sega from here on in, particularly as they're not proving to be very good at designing their own hardware.

NG: So why doesn't Sega dip out of making game boxes and license their brand to Matsushita for M2? Doesn't that make sense for them?

Trip: It makes sense to me, that's why we tried to do it! For most of last year Sega was interested in doing that, but at the end of the day I think Sega's corporate ego is still too big to allow them to partner with anyone. But I don't think that means they won't do it in the future.

I think a lot depends on how they perform financially over the next year and then do they have the nerve to introduce their own format again? They like controlling their own business. They don't like the idea of having to be partners.

It's the same thing with Nintendo, although Nintendo is in a much stronger financial position than Sega. Plus, Nintendo instinctively wants to live at the bottom end of the market, that's one of the reasons they've stayed away from an optical disc. Even now they have a fairly negative attitude about CD-ROM and DVD because they don't think they can control it. They've got the patent on their security chip, but unless the software's delivered on a medium that connects through an edge connector — where you can use that chip — they get worried about somebody messing with their licensing program.

They're also not that worried about any third-party software market. They want to make a really great children's toy, and they want to sell a bunch of their own software for it. You have to respect the purity of that model.

Sega is a very autocratic company. It's really driven by [Hideo] Nakayama and whatever he wants to do, but I think there's a pretty good chance that in the next couple of years he'll finally throw in the towel and say, "Screw it, let's just be a really great software company." Then they'll decide who they want to partner with in hardware and make sure they get a good deal for the use of their brand.

In many ways the Matsushita and Sega relationship would have made a lot of sense because you would have had Sega's marketing acumen and software plus the

manufacturing power and technology of Matsushita backing it up.

NG: How far did negotiations get?

Trip: The deal was virtually done. It only fell apart at the last minute.

NG: Why?

Trip: Ego — and not just Sega's.

NG: Is there any chance of it being resurrected at all?

Trip: I don't think these sorts of things are ever dead — particularly with Japanese firms. You just have to sit back for a while and see how the marketplace develops, how it falls into place.

Sega has a lot of interest in DVD, but some of the research we've done suggests that if a consumer goes out to buy a DVD player with gaming capabilities, this person is going to focus on the DVD brand, and not the gaming brand. I've heard many consumers say that they wouldn't dare buy a Sega- or Nintendo-branded DVD player. They think that the movie quality would be lousy. And while that may not be the case, it's certainly the perception.

And if DVD does turn out to be the Trojan Horse that drives the game business forward, it benefits Sony and Matsushita enormously and it becomes a question of how Sega and Nintendo fit in. **ng**
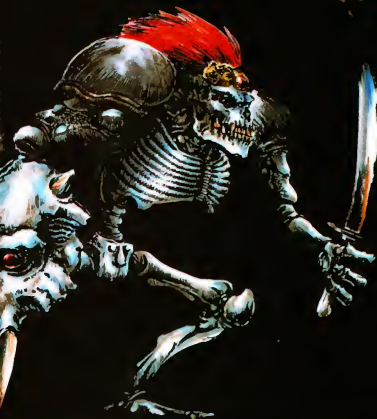
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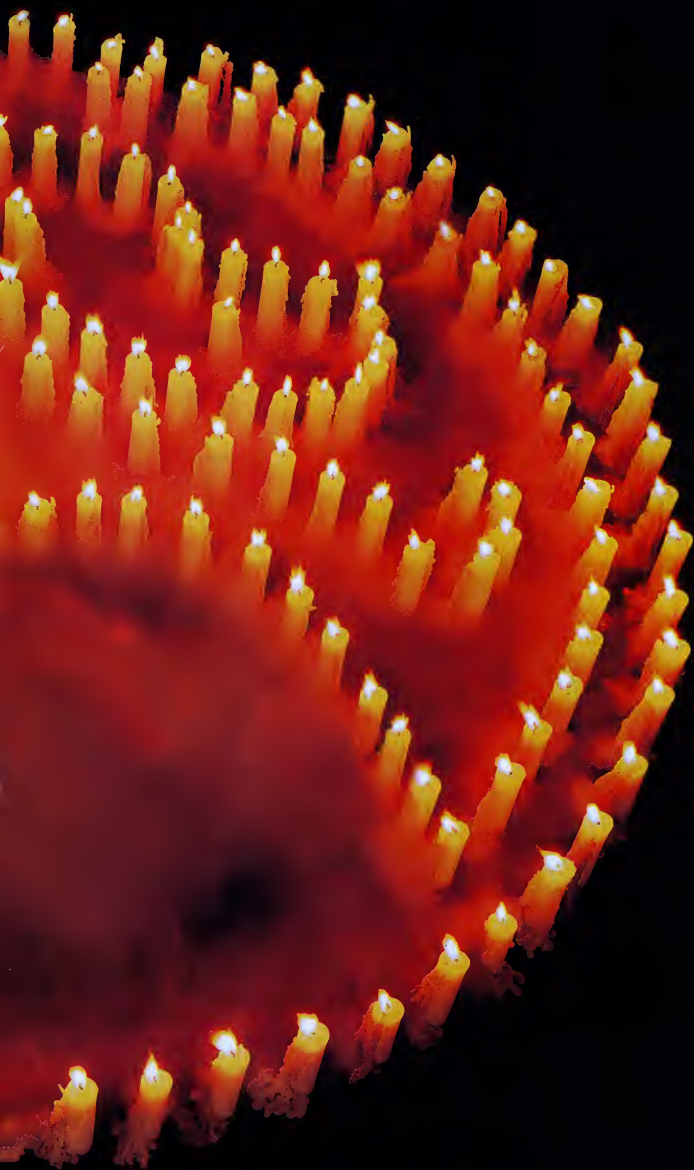for sure...this ain't no beauty contest...
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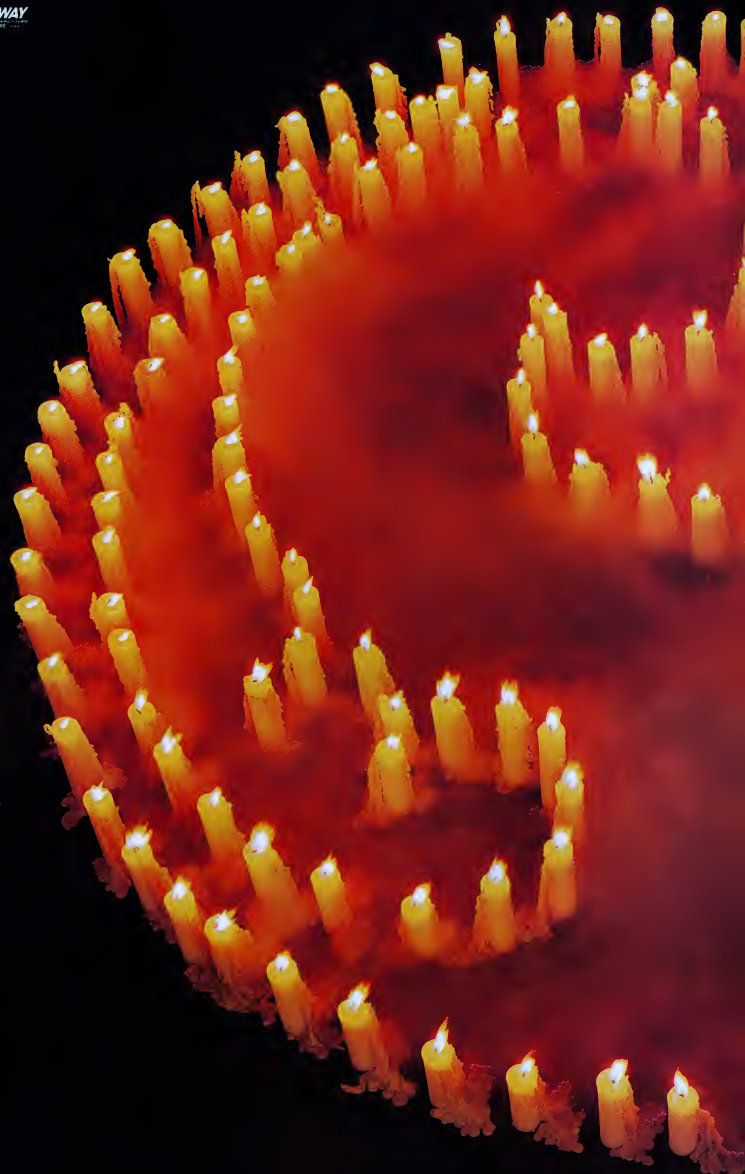
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★★ **Average**
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★ **Bad**
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PlayStation

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Publisher: Sony
Developer: Pegasus/Asmik
No, it's not a golf sim. This is Asmik's *Sidewinder*, retitled for its U.S. release (everyone knows that a cryptic, impenetrably vague title never fails to boost sales, right?). As such, there's very little change from the Japanese version, other than a translation of the mission briefings. So, what went for *Sidewinder* still holds: there's a lot of variety to the game's missions (which include both air-to-air and air-to-ground assaults, and the graphics are just short of excellent). The level of difficulty is pitched right, and considering there aren't many flight sims available for the system, players could do a lot worse.

On the other hand, the control isn't what it could be. It seems like it's been tuned a little since its Japanese release, but that still doesn't make it great —

In Japan, *Bogey Dead 6* was known as *Sidewinder* — by any other name, it ain't that great

players can't roll, and there's still a problem with not being able to dip the nose unless the wings are almost level. It's worth mentioning that the game is compatible with Sony's new analog joystick, and feels a little better using the dual joystick-throttle combination. It still, however, doesn't fly well enough to really justify the cost of the game plus the extra bucks you'll have to shell out for the stick. On balance, *Bogey Dead 6* just doesn't suck.
Rating: ★★★

Gunship
Publisher: Microprose
Developer: Microprose
Gamers should have been thrilled by the news that Microprose was going to release a PlayStation version of its venerable chopper sim *Gunship*. The original was one of Amiga's premiere titles, and although many years have passed since then, the game can still

Gunship: a classic Amiga game, now a mediocre PS-X game

hold its own. Unfortunately, the only thing the PlayStation version has in common with its older soul-mate is the name. What's left is a graphic nightmare of terrific proportions.

There are two modes of play: a Quick Fire game that enables players to shoot anything that moves until they're eventually blown from the sky, and the significantly more entertaining Simulation, in which players create a pilot and set forth on a variety of missions in Europe and Iraq, flying everything from the Apache to a UH-60K/L Blackhawk.

There are some decent mission options, from selecting proper weapon configurations to preplanning mission waypoints, that give the game a little more credibility. And in an especially nice touch, Microprose includes several wingman commands that add a little flavor to the meal.

But, ultimately, the shoddy graphics, sparse sound effects, and annoying gameplay will have you reaching for a pack of Tums.
Rating: ★★

Robo Pit
Publisher: T-HQ
Developer: Altron
Robo Pit starts off with an interesting enough premise: the idea is to build your own robot warrior, choosing from a variety of different torsos, heads, and legs,

then equip it with a set of weapon-tipped arms. Once the critter is assembled, players square off against another robot in a one-on-one battle fought using an over-the-shoulder, second-person perspective. By winning, you get to walk off with an opponent's arm and add it to your arsenal. Lose, and not only do you drop back one position in the rankings, you also lose a robot arm (seems fair enough). The game controls extremely well, there's certainly enough variety, and heck, if the amount of available weapons isn't enough, it's possible to grab rocks and trees with which to whomp the other guy. Best of all is the Vs. mode: Save your best robot to a RAM cart, bring it to a buddy's house, and whale.

On the other hand, it's also not that challenging in one-player mode: Once players have built the right machine and figured out a few tricks, nearly every opponent is a pushover. There are 100

Robo Pit boasts some of the cutest battling robots around

opponents to battle, which would normally rate a big "Wow," but in this case, given how easy they are to beat, it becomes mind-numbing. Also, as much variety as there is to the robots, there are only about six backgrounds (given 100 rounds of competition — well, you do the math and figure out how often they cycle around). Last, while the two-player, split-screen mode is a lot of fun, a link option would have been better. *Robo-pit* is fun , but falls short of greatness.
Rating: ★★★

Tokyo Highway Battle
Publisher: Jaleco
Developer: Bullet-proof
This one starts off a little slow, but if you stick with it, it has its

Tokyo Highway Battle isn't the best driving game we've ever driven, but it's far from the worst

rewards. Players race on three tracks, set in the highways around...Tokyo (duh). If players can beat the local speed king on

each, you get to race a second set of three — on the same tracks — then race against Keiichi "Drift King" Tsuchiya, one of Japan's better known race car drivers — again, on the same three tracks. If this seems like there's not a lot of variety, well, there isn't really. You can choose from six different styles of cars, but there's really only one or two that are worth using.

Once you've won a couple of races and upgraded your car, however, the pace picks up a lot. The game is fast, smooth, and controls extremely well. Your opponents are easy to beat to start with, but the challenge level goes up exponentially — Tsuchiya

is almost impossible to beat, although you can keep him in sight long enough and often enough to convince yourself you'll get him next time. Power slides (or "drift" as the game calls it) are so built into the game that, while you can execute them using the normal brake-turn-accelerate method, there is also a special button for starting one automatically. Though there's only one opponent per race, the highway isn't empty. There are cars, trucks, and buses to avoid, adding to the challenge.

Tokyo Highway Battle doesn't rank up there with the best of them, but it isn't far behind.
Rating: ★★★

Saturn

Stylized graphics and an intriguing storyline help set the proper atmosphere in *Torico*

Gekkamugentan-Torico
Publisher: Sega Japan
Developer: Sega Japan
To be known simply as *Torico* when it comes to the U.S., *Gekkamugentan-Torico* is an exquisitely beautiful graphic adventure created in the style of Warp's *D*. With a twisted storyline involving a lost soul searching for his own identity in a strange town, *Torico* unravels at a slow but satisfying pace as the player wanders the streets looking for clues, encountering a host of bizarre and sometimes evil characters, each with their own agendas. The majority of the game is spent prying loose bits of info from the characters encountered while using special items found along the way.

If this sounds like a familiar pattern for a graphic adventure, it is, but like Sega's *Panzer Dragoon* series, *Torico* is a sublime triumph of style over substance. Not only are the CG graphics almost lifelike in their realism, the environment itself has a certain character all of its own. There are also little details, like a memory feature which records every character encounter of the game, and the all-important ability to save at any point, which keeps the player from getting stuck or frustrated at lost progress.

The mere fact that the game simply keeps moving at its own irresistible pace is enough to keep players pressing on in their quest to uncover its secrets. *Torico* is a must for all graphic adventure fans.
Rating: ★★★★

Loaded
Publisher: Interplay
Developer: Gremlin
When *Loaded* first arrived on PlayStation, much was made of the fancy lighting effects, the explosive graphics, and the ultra-violent action. In all the excitement, however, it was often overlooked that *Loaded* was

FLY BY NIGHT

Project: Horned Owl
Publisher: Sony
Developer: Movic
As the PlayStation library expands, it seems only logical that someone would finally release a light-gun shooter. After all, *Time Crisis*, *Virtua Cop 2*, and *Area 51* are still among the most popular arcade games. It might even be easy to assume that simply showing up on PlayStation would be enough to satisfy hungry fans of the genre, and for many it probably will. However, while *Project: Horned Owl* does perform as a decent light-gun game, the game's lack of inspiration is clear compared to other more recent light-gun efforts.

Sold separately from the Konami light gun (the only available light gun for PS-X), *Project: Horned Owl* can be played without the gun, but we wouldn't recommend it. Through the use of a tracking camera the player moves through a 3D environment as enemies pop up from behind every

The sprite-based enemies in *Horned Owl* lie a little flat against the true 3D backgrounds

Flying through the futuristic landscapes of *Project: Horned Owl*, the player has the opportunity to take out almost countless enemies

With "live" backgrounds, *HO*'s backgrounds help to immerse the player the game's action

sizeable object in the game. The gun is easily calibrated and extremely accurate, and the game is reasonably fast-paced, but could only rarely be described as unpredictable. This is yesterday's shooter. The sprite-based enemies don't enable any variety as in *Virtua Cop*, so hitting an enemy in the head has the same effect as hitting him in the toe — although with character designs by Masamune Shirow (*Ghost in the Shell*) there are very few actual heads and toes to speak of.

There are a few highlights, including some nicely detailed and futuristic 3D environments, lengthy missions, and interactive backgrounds. Also, the game has an overwhelming sense of Japanese style which *anime* fans will likely appreciate. For the most part, however, the game is pretty average — nothing wrong with it, just not that much to get excited about.
Rating: ★★★

rating saturn

NIGHTLIFE

Lost in a fantastical world of dreams, the characters, Clarise and Elliot, often find themselves in bizarre surroundings

Yuki Naka's Sonic Team purposefully limited the flying to invisible 2D tracks because early beta testers said the game was too difficult to play in full 3D

Nights
Publisher: Sega
Developer: Sega/The Sonic Team

It hardly seems possible that only five years ago Sega Genesis found itself face-to-face with the more powerful Super NES. Suddenly, just as the battle seemed to be slipping away from Sega, a little, blue hedgehog came along and pumped new life into the 16-bit machine. The man that supercharged Genesis and, indeed, the entire 16-bit generation was Yuji Naka, and he's set to do it all over again with his latest masterpiece, *Nights*. In a year when *Super Mario 64* for Nintendo 64 is undeniably the grandest thing any of us have ever seen, Sega has dared to give gamers something a little different to gnaw on — and it will certainly be appreciated by many.

Beyond the graphic prowess displayed in *Nights* — which is sure to impress even the staunchest of Saturn nay-sayers — the gameplay developed by Naka and the Sonic Team is beyond a doubt amongst the most fluid and satisfying created for any game on any system. The gameplay concepts alone win this game a place in the wholly original category. With most of the action taking place in the air, the obvious devotion to this portion of the gameplay shows through on just about every level. The flight controls, for example, merely start by being faultless and go on to become a natural extension of the player's thought process — a feat which many attempt, but few achieve.

What's perhaps the only disappointing aspect of the game is that it all rushes by so fast. In an age where seven basic levels per game has become the average, *Nights* does very little to stretch these boundaries. With a fun two-player battle mode and innovative grading method, it keeps you playing, and there's plenty of life in the game even for the most dedicated player, but a few more levels would not have been a bad thing. Nevertheless, *Nights* simply soars — a grand, groundbreaking game that deserves huge success and the widest possible audience.

Rating: ★★★★★

Exploring the 3D terrain of *Nights* often turns up quirky surprises. Here, Elliot meets the clock

RULES :

Rocket Jockey

Saturn

Besides its great looks, the game's replay value holds its own by showcasing the best decathlete players in the prestigious hall of fame

Team AM3 just doesn't seem to let up. It has once again made a solid hit with *Decathlete*. *Decathlete* will also hit the arcades as a Titan title

DECADENT

Decathlete
Publisher: Sega
Developer: Sega AM3

Sega's hot R&D department AM3 (maker of *Sega Rally*, *Last Bronx*, *Manx TT*, and *Virtual On*) has managed to do something no other Saturn developer has been able to do; it has a game that is crisper and sharper looking than its PlayStation counterpart.

Decathlete scores big by pushing more polygons than was thought possible for the system. Each one of the seven characters has his or her own look, celebrations, and distinct strengths and weaknesses. Of course, it's a given that with only one competitor on the field at a time, there's not much to tax the system's graphics engine. But in this case the opportunity to feature extremely detailed characters has been taken to the limit. Even compared to the previous benchmark, Konami's *International Track & Field*, *Decathlete*'s competitors appear to be on polygon steroids — completely smooth, crisp, and full of life.

The key to a good track & field game, however, lies in the complexity and variety of the events, and again *Decathlete* keeps up the pace. The 10 events of the Olympic Decathlon rely on vastly different mixes of timing, speed, and skill. In *Decathlete*, the blend seems to favor timing more than power, with most of the power meters reaching maximum without as frantic an effort as usual. This means the best Decathletes aren't necessarily the fastest hands, but the surest.

With four difficulty levels, an Arcade mode, a Practice mode, an event instruction feature, and a brilliant hall of fame, *Decathlete* has nearly everything covered. The one crucial flaw is in its limited multiplayer capability — only two can compete at once, while *International Track & Field* enables up to four players, which is partly what made it such an exciting game. The replay value of *Decathlete* is restored somewhat by the hall of fame, which lists the top five all-time best scores for each event. Each time players break a record their name goes to the top of the list and it's all saved in the Saturn's internal RAM.

Decathlete has definitely created a new standard for track and field type games, and because it doesn't rely so heavily on callous-inducing button-mashing, it should appeal to an even wider audience.
Rating: ★★★★

Button mashing is not so much a part of the skill set needed to get into the hall of fame. Sure hands do the trick

"loaded" with bells and whistles and weak when it came to gameplay. Now that the Saturn version is here, it's a little easier to see the game for what it is. Still graphically impressive, the gameplay in *Loaded* never goes very far beyond mindless shooting. Sure, it's fun to see bodies splatter all over the floor and, of course, it's fun to blow huge structures to smithereens but eventually it gets *really* old.

There is some puzzle-solving exploration, but there's precious little: This ain't exactly strategic warfare. For the most part, even aiming at an enemy (or hordes of enemies, as is often the case) becomes little more than turning in a particular direction and spraying ammunition all over the place. There are a host of characters from which to choose, and each does have his or her own weapon, but for the most part each character is handled the same way.
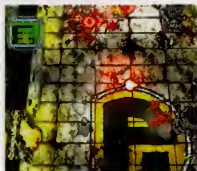
With all the blood and guts, it's almost easy to overlook *Loaded*'s lack of gameplay depth

One definite highlight is the soundtrack, which features several bone-jarring songs from the band Pop Will Eat Itself. In the end, *Loaded* will always be a fun game for a little while, but the action is just too uni-dimensional for long enjoyment.
Rating: ★★★

True Pinball
Publisher: Ocean
Developer: Digital Illusions

Ever since Bill Budge's *Raster Blaster* for Apple II in the early '80s, people have been trying to make the quintessential pinball videogame, and while *True Pinball* may come close graphically, the feeling you get while playing still isn't quite right.

Yes, with its amazingly detailed graphics and accurate physics, *True Pinball* has all the standard elements of a great pinball table (four great pinball tables actually), and if you love video pinball you'll likely be a fan of this one. After all, it's OK to like both Mexican cuisine and Taco Bell, but few would consider them interchangeable. Therefore,

rating neo-geo pc

With dead-on graphics, *True Pinball* paints a pretty picture

if you're looking for a fast-paced videogame with lots of replay value, *True Pinball* may just be it.

What's a little disappointing, however, is that neither of the two views — low-angle 3D or overhead — are particularly kind to the player. The 3D view is constantly shifting between the high and low ends of the table and the overhead view is entirely too close to the action. What would have been nice is to include an overhead view with a little distance between the camera and the table. This would have meant less detail, but the game would have been easier to play. Other than this perspective problem, *True Pinball* is a good video pinball game, just not a great game of pinball.
Rating: ★★★

Neo-Geo

Ninja Masters
Publisher: SNK
Developer: ADK
At first glance, *Ninja Masters* looks just like any other Neo-Geo 2D fighter, with 10 *anime*-style characters brandishing a mixture of steel and vicious moves. While *Ninja Masters* may not have the balance and smooth fighting of the classic *Samurai Shodown* and *Fatal Fury* series, it has added some much needed innovation to the genre.

Most notable is the ability to change fighting styles — by pressing the B and C buttons the player can choose to use a weapon or his or her hands. The weapon offers more power and a longer reach, but with your bare hands there are less unguarded moments of vulnerability. The player must choose the best time to use each style, which adds dramatically to strategy.

Like *Samurai Shodown*, players can pick up dropped weapons, and features like the power gauge and a combo system are certainly nothing new, but in the limited world of the 2D

fighter, *Ninja Masters* has made a solid step forward.
Rating: ★★★

Voltage Fighter Gowcaizer
Publisher: SNK
Developer: Technos
Just when you thought that Neo-Geo couldn't possibly put out another lackluster 2D brawler, *Voltage Fighter Gowcaizer* shows up in all of its mediocrity. Ten distinct fighters from Captain Atlantis to Hellstinger come in with the usual array of special attacks but nothing else to set this apart from the mind-numbing number of other 2D fighting games for Neo-Geo.

The only new element added to the game is the special attack tracing system, which enables the victorious fighter to take his or her opponent's special move for the next fight. This kind of thing has been seen before, but it's still an interesting enough feature to add a mild sprinkle of replay value to an otherwise crushingly unoriginal game.

Add one more to the glut of 2D fighters for the Neo-Geo.
Rating: ★★

PC

### American Civil War: From Sumter to Appomattox
Publisher: Interactive Magic
Developer: Interactive Magic
There's a fine line between a war game mixing strategy, statistics, and action into a pleasing whole, and one that is about as fun to trudge through as half-melted cheese. *American Civil War* just barely manages to hop the fence and stand in the pasture of war gaming greatness, rather than swim in a pool of cheddar.

The game swamps the player with hundreds of statistical options; from supplies to guns, to troop strength, to experience, to morale, the choices are numerous. In this sense, as a tactical simulation *American Civil War* soars above other Civil War strategy games.

Unfortunately, this means that casual war gamers are likely to be left in the cold, since the designers seem to assume that players have a knowledge of the war as deep as their own. If players haven't read every available book on the subject, they're just likely to be confused as the names of Civil War commanders fly hither and yon.

Without a thorough understanding of the war and its participants, the player stands
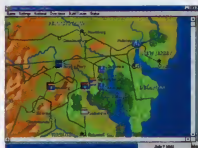
The level of statistical detail in *American Civil War* can bring a grown man to his knees

little chance of successfully grasping the deepest strategies.

Of course, those with little interest in the Civil War aren't likely to buy this game in the first place, and the box does include a relatively thorough Civil War encyclopedia on disc, in case player need some brushing up.

While daunting to the historically (or statistically) challenged, *American Civil War* is a well-designed tactical simulation of one of the bloodiest conflicts in American history. Civil War experts should find it hard to resist.
Rating: ★★★★

Battleground Waterloo
Publisher: TalonSoft
Developer: TalonSoft
Battleground Waterloo is as good as PC war games get, featuring everything players could want in a turn-based bloodbath: historical accuracy, pleasing graphics, an easy-to-use interface, and strategic subtleties.

Players are only re-enacting one battle, Waterloo, but there are plenty of options on how they are chosen. Players can choose to fight it out in several stages spread out across an abundance of scenarios, with historical

variants (what if, for instance, Grouchy had just showed up on time), or in one gargantuan, true-to-history campaign.

The maps are both beautiful and extremely accurate, depicting the battlefield around Waterloo and the individual units themselves in lush Super VGA. Five different levels of map zooming (both 2D and 3D), make it easy to keep the overall strategic situation at hand, without sacrificing the superb graphic detail of the tactical level.

During combat there are suitable sound effects and some effective FMV clips of men shooting, though the latter quickly grow tiring and can easily be turned off — the same can be said for the period music. But these multimedia extras don't detract from the solidity of the war game itself.

Players choose either the French or the British and the focus is on the regimental level. Regiments consist of infantry, cavalry, or artillery. Numerous leader counters, including Napoleon, Ney, and their cohorts, add to the units' effectiveness; these officers are especially useful for rallying routed formations. It's even possible to kill Wellington, much to the horror of our English staff.

Perhaps the game's only drawback is that players can only fight at Waterloo — there is no Borodino or Austerlitz, there is no campaign play. But TalonSoft has an entire series of war games in the *Battleground* series, including Shiloh, Gettysburg, and some future offerings that will keep die-hard grognards occupied for some time to come.
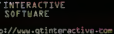**Rating: ★★★★**

Battleground: Waterloo is a concrete example of PC war gaming at its finest with historical accuracy, pleasing graphics, and subtle strategies

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RP
ESRB

EARTH SHATTERING

The shambler has a tendency to toss lightning bolts out of his belly. All we have to say is that's gotta be some killer chili he's been eatin'

Quake
Publisher: Id Software
Developer: Id Software

Everybody's heard of it. Everybody wants it. If you haven't, why are you reading this magazine? The newest first-person shooter from the makers of *Doom* dumps you in a universe of crossed dimensions, bloodthirsty monsters, and some of the most frightening ambient sound effects ever produced for a PC game. The soundtrack is courtesy of Trent Reznor from Nine Inch Nails, a *Doom* fan who offered Id his services for practically nothing, and like *Resident Evil* for PlayStation, this is one of the few games you can play where simply walking down a darkened hallway, listening to zombie moans and shambler groans, makes the hair on the back of your neck rise. Even too much time spent under water causes sickening choking sounds, and the gasp as you reach the surface is enough to cause a real sigh of relief.

The best thing about *Quake*, however, is the play control. Realistic 3D physics cause players to you slide down hills and bounce into the air from nearby explosions. The designers even show off a little with a level that has about 1/3 normal gravity. The sense of realism is unshakable, even with pixilated mutant zombies chasing you down.

The death knights (top) don't come out of hiding until later on in the game. Their bark is worse than their bite, mostly because although they throw out streams of painful magic, a few well-placed lightning blasts will do them in. The end level boss for the first episode is a nasty fire-dweller (above). If you don't keep moving, you're toast. Literally

For the nit-picky player, the game is completely configurable, from video resolutions up to 1280x1024 to assigning virtually any key to any task. Multiplayer sessions over a LAN are set up quickly and easily, and it's worth noting that this is the first game to ever enable players to jump in and out in the middle of a game. Weapons range from the trusty shotguns (single- and double-barreled) to the deadly lightning gun, with nail-guns and a vicious grenade launcher in between. In fact, all of the weapons are extremely satisfying.

Although the graphics aren't quite as astounding as hoped, the overall atmosphere of the textures conveys a sense of dark foreboding. Each level design even matches the setting — plain and obvious in militaristic realms, dark and twisting in the more nether regions — something that couldn't be said of *Doom*. Rarely does a game so completely reach its goal of being the best of its genre.

Rating: ★★★★★

Who says id isn't patriotic? These are the best fireworks yet!

Bruce Jenner's World Class Decathlon
Publisher: Interactive Magic
Developer: Dallas Multimedia

Bruce Jenner won the Olympic Decathlon in 1976. That's nice for him. This game, on the other hand, doesn't do the intensity of the sport justice.

The real life decathlon consists of 10 grueling events, among them the pole vault, shot put, and 1,500 meter race, and getting any medal requires a near super-human effort. Getting the gold medal in this sim, however, requires nothing more than a few mouse clicks and good timing.
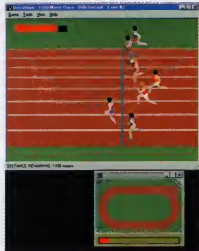
Bruce Jenner's races are easy and mind-numbing events. Just hold the button and watch

Strategy comes into play when the player creates a new contestant. Building him from the ground up gives it a mild RPG feel, which is an interesting angle for a sports title, but the events themselves are so uninspiring, it hardly makes it worthwhile. All that's involved is clicking a mouse button a few times at the right moments in each event, which makes the game about as exciting as re-arranging your Windows desktop.

Even the multiplayer mode offers little entertainment: In the group events, such as races, the players don't compete directly, they take turns. A decathlon simulation is a novel idea, but this implementation simply isn't exciting enough to do the job.
Rating: ★★

Cat Fight
Publisher: Atlantean Interactive
Developer: Phantom Card

Catfight is just what you think it is: an all-female fighting game. Digitized women in scanty costumes duke it out with special moves, combos, and intense blocks. Not very PC of course (pun intended), but on paper, at least, it has appeal, since it's

Here's a new put-down snap: "Yo mamma is so ugly, she starred in Catfight!" Pee-uuhhh

axiomatic that when a new fighting game is booted up, the first or second bout is invariably girl-girl — come on, we all do it.

The designers at Phantom, however, blow it at every turn, from the poor image quality, to the nonexistent play control, ridiculously inane special effects, and abysmal sound. It makes us wonder who should be pitied more; the people who spend good money on this tripe thinking it might be worthwhile, or the mental defectives who put it together and thought, "This is good. People will buy it."

The game has a mode that makes the computer so stupid it just stands there, and — in a first — it's also possible to just watch the action between fighters passively. In other words, it seems like it's designed merely to be watched most of the time. But wait, they've actually managed to put together the unsexiest group of fighters you could imagine, which means it fails even at the most base, voyeuristic level.

In fact, it's tempting to believe *Catfight* was designed as a sneaky militant feminist ploy, since it serves as perfect punishment for the sexist males who might buy it. The only thing to relieve the pain is that it plays directly from the CD-ROM, and won't spoil your hard drive.

Our scoring system won't let us give zeroes, so Atlantean owes us one star.
Rating: ★

Close Combat
Publisher: Microsoft
Developer: Atomic Games

As the first title from Microsoft games, *Close Combat* is probably getting more scrutiny than it deserves. What's the big deal?

As an entry in the *Command & Conquer/Warcraft II* genre of realtime battle games, it could find its place: set in WWII during the D-Day invasion, it's based on "real" combat. The designers included a realistic psychological model for the soldiers, so if you command them to do something

dangerous or blatantly suicidal, chances are they won't go for it; a potentially interesting wrinkle.

The problem is it doesn't work in practice. No matter how strategically brilliant the player is, eventually some squad of grunts is too slow or simply doesn't follow an order at all, resulting in some other squad getting cut to pieces. Following the game's model (especially in Campaign mode), this means it's even less likely soldiers will follow orders during the next mission. Frustrating and arbitrary, to say the least.

There are other problems. The screen's herky-jerky idea of scrolling is plain annoying; the soldiers are much too small and blend into the field (especially forests and scrub) all too well; selecting units is a pain; artillery fire can be stopped by a hedge, since artillery requires a direct line of sight (requiring a forward observer would be fine, but a line of sight? A course in basic ballistics is in order here). Multiplayer games are slightly more fun, but the game only supports two players.

Stick with it and the game

does have its challenges and mild rewards, but face it, there are other, much better games like this out there.

A serious Microsoft misfire.
Rating: ★★

DeathKeep
Publisher: SSI
Developer: Lion Entertainment

Every now and then a title comes from a reputable publisher of fine entertainment software that is so horrendous, so inane, that it makes you wonder who approves a product for retail. Either that person has a terribly strange sense of fun, or they were off to

Here comes that skeleton again. Like all the others, he wants to get out of SSI's awful DeathKeep

CAUTION:
BEWARE OF PC GAMES RUNNING RIGHTEOUS 3D™ ACCELERATOR. DUE TO INTENSE SPEEDS, SMALL CHILDREN AND THOSE WITH PACEMAKERS SHOULD VIEW SCREEN FROM A SAFE DISTANCE.

the restroom for a long time while *DeathKeeper* slipped by.

This game originally came out for various consoles last year, where compared to its competition, it wasn't terrible. However, it almost seems like this version was ported straight using the same code. At best, it's one of the worst clones ever made. Even with its abused TSR license for the Advanced Dungeons and Dragons role-playing world (the only references to which are the spells, such as "magic missile" or "burning hands"), it won't hold much attraction for even the most die-hard RPG player. The jerky play control, blocky and pixilated graphics, and awkward keyboard configuration would make it a bad click and play game, much less worth the price of the purchase.

At least this can be said for it: if, for some inexplicable reason, a player finds the game a joy to play, at least they'll have 25 dungeons, each with eight levels, to explore. Still, no matter how much crap you throw on the pile, it's still going to stink.
Rating: ★

Lemmings Paintball
Publisher: Psygnosis
Developer: Visual Sciences
Those cuddly little lemmings are back for more action, but this time they're packing a paint-filled punch. Instead of safely navigating through a series of hazards to reach a specific goal, gamers try to keep them paint-free while finding and capturing

The cute, harmless lemmings are packing paintball heat. To hear them scream, drop them in lava

the rival clan's flags. It's not as easy as it sounds. Players control up to four lemmings to accomplish the task, and they can have several selected at once, or move one at a time.

Like most *Lemmings* games, the sound and graphics are cute and simple, but not stunning, and gameplay is entertaining. The biggest problem is inherent in the isometric view: when dealing with squares on the other side of raised areas, there's no way to tell if it's dangerous or safe, except by sacrificing a lemming

to find out. Simply putting in a feature to rotate the playing field would have solved this.

If lemmings are your lifeblood (like most of us at **Next Generation**), this latest title will compliment your collection.
Rating: ★★★

Manic Karts
Publisher: Virgin Interactive
Developer: Manic Media Productions
In a market overrun by arcade racing games (*Whiplash*, *Big Red Racing*, *Wipeout*), it's strange to come across a racing title that so obviously can't compare. Yet, Manic Media Productions seemed to think it would be a good idea to make one without the elements that made its previous racer, *Super Karts*, entertaining (like play control, inventive tracks, stylish graphics — you know, the fun stuff).

Even though players can use winnings from league races to

The high-res graphics of *Manic Karts* look like fragments of past, better pictures pasted together

configure the carts with plenty of neat gadgetry, which makes you move faster and not slide around so much (you can even bribe the judges), the custom modifications are overshadowed by the dullness of the courses, the unresponsive play control, and graphics that look like they were pasted in with a shareware paint program.

Not even the various difficulty levels can manage to pull this one out of the dumpster. Add to this the sloppy AI (sometimes the computerized carts seem like they're taking those corners so well because the CPU says they should, not because the virtual driver has the skill to do it) and sound effects that would drive an audiophile to drink, and you've got a real clunker.

Avoid it at all costs.
Rating: ★

Monty Python and the Quest for the Holy Grail
Publisher: 7th Level
Developer: 7th Level
It's an unusual thing to see such a strange movie transformed into an even stranger game. It's stranger still to play it, and although it lacks any semblance

Most scenes contain digitized frames from the movie *Monty Python and the Holy Grail*

of decent gameplay, it somehow manages to entertain.

Mostly made up of clips from the movie, this "game" really only tests your skill in finding obscure spots on the screen with the mouse. In order to pass the Bridge of Death for instance, players must collect a variety of items, place the special ones in special places, and answer a 124-question registration form. However, finding the items requires mostly luck and patience rather than skill.

There's never any indication where the "hot spots" are on a given screen, and to find the correct spot usually means just

clicking everywhere and seeing what happens, or if anything happens at all — a painful, annoying process to say the least, and one of the worst game interfaces imaginable.

For fans of the *Monty Python* classic, however, it does have a lot to offer. The disc includes previously unseen clips and bloopers, and although these may not be the greatest prize to award a persistent player, they are entertaining.

If you love the movie, this game might be worth it, but you have to really love the movie.
Rating: ★★

Private Eye
Publisher: Simon & Schuster Interactive
Developer: Byron Preiss Multimedia
One of the most well-known private detectives in the history of fiction, Philip Marlowe, stars in this "interactive" murder mystery.

And "Interactive," as usual, meaning the opposite. At certain points, you make decisions for Marlowe: should he question the suspect, or just lay off and tail him when he's not looking? The

Here's a couple of Private Eye's bad guys. They sure didn't look too scary back then, did they?

only other choices the player gets to make are during crime scene investigations: do you take the book of matches, or let the police find it? But these kinds of choices don't actually happen that often, which means that the game is barely interactive at all.

In a way that's a shame, because the story plays out using cel animation with a chalky noir feel, like something directly out of classic comic books of the '40s. For once, the voice actors perform fantastically, and the story grabs a hold of the player and draws him or her into the depths of the mystery.

Unfortunately, there just isn't much game to hang it on. A click or two every 10 minutes does not balance out the hole it'll leave in your checkbook. Even with its alternate endings and intriguing story, you'd probably be better off renting *The Big Sleep* (the Bogart version, not the Mitchum).
Rating: ★★

Tracer
Publisher: 7th Level
Developer: Future Endeavors
When considering that this is an action-puzzle game, the William Gibson-style backstory (which is meant to add a substantial part of the game's overall tone) is totally superfluous.

It goes like this: You're a hacker who enters cyberspace and fights Intruder Countermeasures Electronic (ICE) for a profit. Cyberspace consists of an empty grid traversed by using blocks with different colored sides. Match them up like dominoes, and a pathway is

See the disintegrating block? That's the virus that tries to catch up to you in *Tracer*

formed. Throw in a deadly computer virus that chases the player down, eating up the pathway behind him or her, and you've got the makings of a decent enough title.

At least this isn't another *Tetris* clone. The variety of special collectable items and the tricky layout of the levels make for some challenging puzzles. Microchasms require bridges or zipper pads; bad sectors can play havoc with code pads; and code keys unlock entry to the upper levels. However, to get very far, a quick mind and even quicker fingers are required. Also, a lot of patience does a world of good, since things can get frustrating early on. But, as far as this sort of thing goes, the game is certainly worth a look.
Rating: ★★★

Witchaven II: Blood Vengeance
Publisher: Intracorp
Developer: Capstone
Witchaven II is an improvement over the original, but it doesn't stack up to comparable games in its genre. It's a *Doom*-style game in a dungeon setting, like *Heretic* or *Hexen*, but with the emphasis on hand-to-hand fighting rather than ranged attacks. The trouble is, hand-to-hand combat in a first-person shooter just isn't that exciting for the simple reason

Innovative but unsurprising, *Witchaven II* is just like *Doom*...

that you can't aim or move around all that much.

The game uses the Build engine, licensed from 3D Realms (the same engine used so successfully in *Duke Nukem 3D*) but *Witchaven II* is a far cry from *Duke*. The game's graphics are blockier, control is less responsive, and it's simply not as entertaining or innovative.

As players go through the dungeon defeating monsters and gathering gold, they gain experience points, which adds an RPG element. There are also magic items and potions that let the character fly, turn invisible, or resist fire — the latter are very handy in the lava levels. The game boasts a little more than 20 monsters, but the bulk of them are humans with variations in their graphics and hit points —

there's no large or particularly fearsome creatures in the bunch.

On the up side, the disc has a level editor to enable users to create levels (similar to the Build editor in *Duke Nukem 3D*'s but better documented), and may be of interest to level designers, but as a game it's not much interest to anyone.
Rating: ★★

MacIntosh

Afterlife
Publisher: LucasArts
Developer: LucasArts
Imagine that you're a god who is completely in control of both Heaven and Hell. As such, you have more responsibilities than any god could possibly handle, and to make matters even more complicated, the vast range of options at your disposal are nearly as limitless.

There is just one small catch to this god greatness... you have a budget (a god with a budget?) that must be managed, and an economy (of sorts) that must be developed to gain revenue, so

Your "consultants" assist the player build a "perfect" heaven

that you may further improve Heaven and further ruin Hell.

This is the game *Afterlife*, a title that will immediately attract anyone who was even mildly amused by the mother of all sim-builders, *SimCity*. There are loads of variables in the gameplay, from things like "bad vibes," to wild disasters, like "Heaven's Got the Blues," and "Hell Freezes Over," and even other gods to call on when you need to expand.

Gameplay is very similar to the *SimCity* series, but instead of just one "city," players really need to focus on two entirely separate realms, Heaven and Hell. In place of *SimCity*'s Industrial and Residential Zones, players assign areas to the Seven Deadly

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The clock is running your adrenaline is pumping sweat is dripping into your eyes as you feel your muscles tensing and you prepare to make the move that for just one fraction of a second will send you soaring right over that other guy in your quest to feel the exquisite rush of head connecting with ball and in one brilliant blinding flash wonder how anyone can actually believe that this is just a game.

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Sins and Seven Cardinal Virtues, then make each area pleasant or awful enough to attract souls. To assist the player through godhood, two "advisors," an angel and a devil who dislike one another, are at your side.

Between the wonderful characters and the complexity of the governing Inter-relationships, *Afterlife* is a title that will provide Mac users many hours of divine or profane enjoyment.
Rating: ★★★★

CFUSA'97's create-a-player mode helps to distinguish it from others

Genesis

College Football USA '97
Publisher: EA Sports
Developer: EA Sports

EA's 16-bit college football series was originally titled *Bill Walsh College Football*, and even though the game is many years removed from that name, the gameplay is still exactly the same.

College Football USA '97 includes all the division I teams and several larger division II teams, but one of the its major additions is the "create a player" option; this feature enables players to add the real college players and their names. Also new is the ability to create your own schedule, which is a great way to choose your own destiny.

The computer-controlled opponent AI has been tweaked a little and is tougher, but beyond those minor adjustments *CF '97* has done nothing to improve over last year's game. The graphics are still lacking, the playbook hasn't changed since the first game in the series, and it plays exactly the same as before.

CF '97 is still solid college football, but unless the Create-a-Player option is really important, last years game (or even the four year old *Bill Walsh College Football*) is all you need.
Rating: ★★★

Arcade

Die Hard Arcade
Publisher: Sega
Developer: STI

They took away Bruce Willis, his whining, quick wit, and his tough-guy New York accent, but the developers at Sega gifted this game with two good things — fine graphics and solid gameplay,

It may not have been the killer app it was looking for, but

Die Hard Arcade features two-player action in a polygonal, texture-mapped environment

rating arcade

VICIOUS CYCLE

The boy on the Frill Wing has complete 3D control to navigate past watery canals, big farms, and in any direction imaginable

Prop Cycle
Publisher: Namco
Developer: Namco

Just how many arcade owners will find floor space for *Prop Cycle* — a 3D, time-based "flying" game — is questionable, since it simply doesn't fit into the standard, American driving, action, or fighting categories. But *Prop Cycle* is the first and only of its kind, and taken on its own terms is a fantastical, innovative, and ultimately enjoyable game.

The premise of *Prop Cycle* is simple: Save the city of Solitar from floating permanently away by popping balloons. Players sit on a "Frill Wing" with pedals and steer with a handlebar that lifts up and down. The player searches out and pops balloons (50 to 500 points per balloon, plus time power-ups), many of which are hidden in mountainous tunnels, under waterfalls, stashed behind houses, or nestled between 30-foot man-eating weeds. The game's sense of discovery is balanced beautifully with its 3D world, in which players can fly anywhere from straight up to straight down and everywhere in between, with realistic physics providing a wonderful, "you are there" feeling of flight (and completely without rails).

The game is powered by Super System 22, so mist-filled caves, cascading water-falls, and sparkling gem-laden caverns are rendered exquisitely, while the 50-inch screen gives players a wide scope when making 180-degree turns and a long line of sight with which to size up the enormous, cleverly designed levels. The game's Advanced Story Mode includes three levels: Cliff Rock Village, a level full of high cliffs, waterfalls, and a lake; Wind Woods, which is littered with pine trees and caverns, plus a moonlit area that's interconnected with tree-houses; and the mechanical Industam, with its mining tunnels, steel structures, and an island of machinery.

While the feeling of flight and 3D movement is near breathtaking and the game is fresh and truly unique, *Prop Cycle* is not terribly deep — once players have saved Solitar,

there's not much reason to come back to it. Nor is its replay value as strong as more traditional titles, like *Tekken 2* or *Virtua Fighter 2*, in which learning curves are steeper and the return value is higher. Still, in the final analysis, *Prop Cycle*'s strengths win out over its weaknesses.
Rating: ★★★★

Prop Cycle's play is based on popping as many balloons as possible in a limited time frame

---

Die Hard Arcade should give a lift to Sega's disappointing arcade board, the ST-V. A two-player action game, *Die Hard Arcade* is the first *Final Fight*-style game to use polygons and texture maps. As such, it breathes life into a dead-end genre with a lengthy list of fighting moves that are both brutally effective and unique. It does this also by injecting at least a minimum amount of interactivity into its cut-scenes (pushing buttons at the right times can affect the onscreen antics, but has no other affect on the course of the game), telling its over-familiar story about the President's kidnapped daughter with lively graphics that detail each new level.

The classic isometric perspective is also familiar, as are the unfortunate play mechanics where players must fight along a straight line, face-to-face, in order to attack. Still, the fighting moves are abundant, and the characters can kick, hit, jump, and attack in significantly more ways than similar games in the past, not to mention the assorted anti-aircraft weapons, machine guns, grenade launchers, and power-ups your character gathers along the way.

The game, however, is not entirely without flaws. It's often difficult to line up the chosen character with the many opponents, the action is occasionally glitchy, and it's a little sluggish at times — but the plentiful choice of spectacular moves, loads of weapons, and better-than-average graphics take it to a new level within its genre.
Rating: ★★★

Dunk Mania
Publisher: Namco
Developer: Namco

Namco's massive arcade division has developed its own basketball game to compete in the plethora of hoops titles currently swamping the arcades. With its trademark Namco lighting effects, polygonal finesse, and motion-capture-based movement, *Dunk Mania* is not all bad, but it's not revolutionary either.

Smooth inside action in *Dunk Mania* is amazingly realistic, but slowness and strategy are a drag

---

Gameplay wanders from being beautifully smooth and realistic, (especially when players swoop and glide on the inside), to being annoyingly awkward on the outside, with little concern for creating a solid offensive passing strategy. With the exception of Konami's *Run and Gun II*, almost all arcade basketball titles (*NBA Hangtime*, *NBA Jam Extreme*, etc.) are created solely with jamming, dunking, and more dunking in mind, slowly replacing the team concept that's so much a part of five-on-five basketball. *Dunk Mania* (as the title implies) is no exception.

Which brings us to there's nothing terribly wrong with *Dunk Mania*'s two-zone structure, two-on-two dunk-fest gameplay, driving soundtrack, or graphic good looks. But in following the herd, one does begin to wonder whether it's a flashy first effort with deeper games to come, or if it's just a great-looking, cookie cutter basketball coin-op with no real sense of the sport itself underneath all the glitz.
Rating: ★★

Sonic Competition
Publisher: Sega
Developer: Sega AM2

Take a handful of your all-time favorite *Sonic* characters, put them into a fighting ring, and dish

Sonic, Tails, and friends are back in *Sonic Competition*, but this time it's in a 3D, arcade fighter

out a litany of outrageously silly, bloodless, even painfully cute moves, and you've got Sega's new *Sonic Competition*.

Starring the darling of mammalian mascots, *Sonic Competition* uses a fantastic assortment of Sonic's enemies and friends who fight to the finish in one-on-one close-ring battles. Beautiful backgrounds surround highly detailed, well-animated characters who can pull off 3D defensive moves and 3D offensive moves as well. Die-hard fighting fans will be disappointed because of its mostly silly moves and pleasantly cartoonish, unaggressive atmosphere, but Sonic fans will have a field day. Sonic spins, Knuckles can fly at

"STELLAR"

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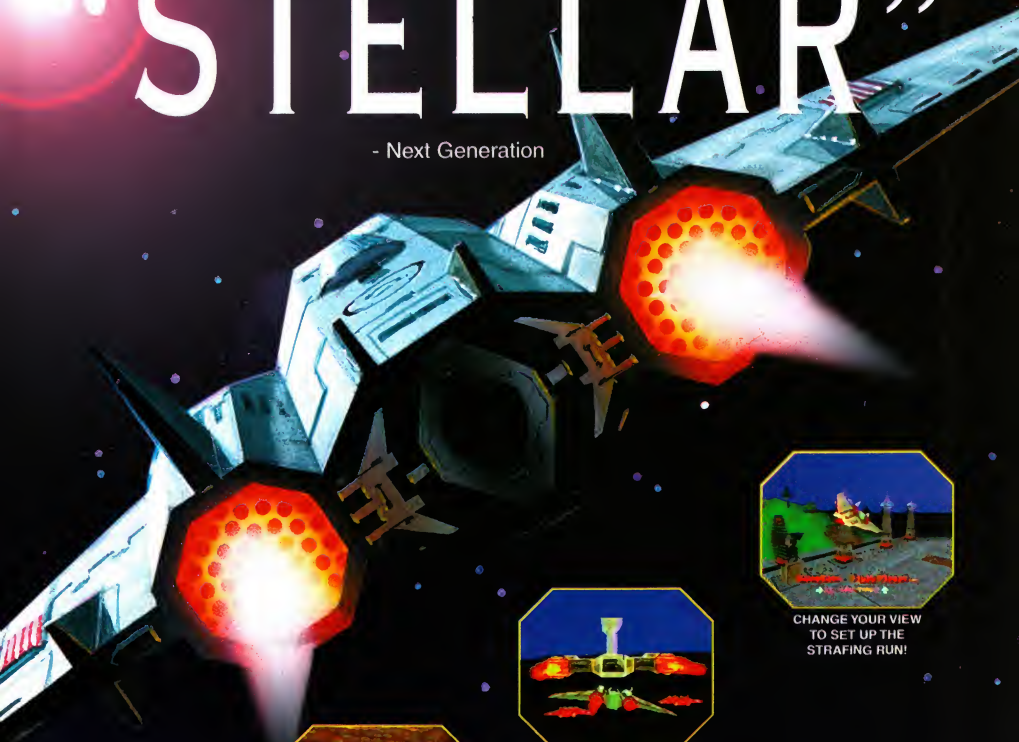
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you with a two-fisted attack, Tails' wails with his propeller dash, Fang "corks," and Amy, Bean, Espio, Metal Sonic (a mechanical Sonic created by Eggman) and Eggman all maintain unorthodox moves and specialties. And there really are some cool moves, but 10-hit combos are nowhere to be found.

What's here is a fun, moderately deep title that exploits the *Sonic* milieu without feeling like a blood-drenched *Mortal Kombat* clone, or even the bone-crunching level of *Virtua Fighter 2* — exactly what Sega's marketing folks had in mind.
Rating: ★★★

Super Puzzle Fighter
Publisher: Capcom
Developer: Capcom
That's right. Capcom's gone ahead and jumped into the currently trendy puzzle frenzy with its own version of *Tetris*, the ultimately addicting game that appeared 10 years ago.

Super Puzzle Fighter has, when it comes right down to it,

the same elements that make *Magic Drop*, *Baku Baku*, *Bust A Move*, and *Tetris Attack* (should we go on?) so enormously addicting. And Capcom, of course, has put its own *Street Fighter*-esque "branding," if you will, squarely on it.

This two-player game pits opponents opposite each other and a viewing screen with adorable, newly drawn, *Street Fighter Alpha 2* and *Darkstalkers* kiddy characters who fight it out for viewers' pleasure (and for boasting rights). The game's object is to create patterns and

Create the right patterns and then watch the *kizu* smack each other in *Super Puzzle Fighter*

layers of colored gems and then wait for either a circular gem (which sets off a chain reaction with like colors) or a sparkling diamond (which eliminates all gems of the color it touches first). But there's more to it than that. Strategy is based on good timing, creating massive same color gems (which send showers of gems into the opponent's playing field), knowing what state your opponent is currently at, and well, a whole lot of luck.

The gameplay is ferociously competitive, unfairly addicting, and as intuitive as riding a bike (once you've got the hang of it), and due to luck factor, the favor swings numerous times from winner to loser and back until the very last gem drops, and a character is KO'd or gets slammed by a Super Combo.

Backgrounds are redrawn versions from *Street Fighter Alpha* with culty, inside jokes, and the music is a remixed, funkified amalgamation of past *Street Fighter* titles as well. This is a fantastic (albeit familiar) puzzle

game with all of the classic Capcom trademarks in gameplay, animation, and cult flavor, and you just won't be able to stop.
Rating: ★★★★

32-bit gamers' guide

Every 32-bit "next-generation" game, rated by **Next Generation**

Every month the reviewers at **Next Generation**'s play, review, and rate every 32-bit game released. These scores are then incorporated into this quick-look, gamers' buying guide.

Unfortunately, there isn't enough space to include PC, Mac, or 32X games here. Also note that many games have been superceded by sequels or updates, and that where a game is accompanied by the suffix (Japan), it means that the game is (at the time of going to press) only available as a Japanese import.

Title	Publisher	NG Rating
Nintendo 64		
Pilot Wings	Nintendo	★★★★★
Super Mario 64	Nintendo	★★★★★
PlayStation		
Adidas Power Soccer	Psygnosis	★★★
Agile Warrior	Virgin	★★★
Alien Trilogy	Acclaim	★★★★
A-Train	SCE	★★★
Aquanaut's Holiday (Japan)	ArtDink	★★★
Arc The Lad (Japan)	SCE	★★★★
Battle Arena Toshinden	SCE	★★★★
Battle Arena Toshinden 2	SCE	★★★★
Bogey Dead 6	Sony	★★★★
Bottom of the Ninth	Konami	★★★★
Boxer's Road (Japan)	New Corp.	★★★
Cosmic Race (Japan)	Neorex	★
Crime Crackers (Japan)	Sony Entertainment	★★
Criticom	Vic Tokai	★★
Cyberia	Interplay	★★★
Cyberspeed	Mindscape	★★★
Cyber Sled	Namco	★★
Cyber War (Japan)	Coco Nuts	★★★
Defcon 5	Data East	★★★★
Dark Stalkers	Capcom	★★★
Descent	Interplay	★★★★
Destruction Derby	Psygnosis	★★★★
Doom	Williams	★★★★
Dragon Ball Z (Japan)	Bandai	★★
Fade to Black	Electronic Arts	★★★
Gex	Crystal Dynamics	★★★
Goal Storm	Konami	★★★★
Gunner's Heaven (Japan)	Media Vision	★★★★
Gunship	Microprose	★★★
Hardball 5	Accolade	★★★
Horned Owl	Sony	★★★
In the Hunt	Xing	★
In the Zone	Konami	★★★
Jumping Flash!	SCE	★★★★★
Jumping Flash! 2	Sony	★★★★
Jupiter Strike	Acclaim	★
Kileak The DNA Imperative	SME	★★★
Kileak The Blood 2	SME	★★★
Killing Time	Naxat Soft	★
King's Field	Asciiware	★★★★
Krazy Ivan	Psygnosis	★★★
Loaded	Interplay	★★★★
Metal Jacket (Japan)	Solan	★
Mobile Suit Gundam (Japan)	Bandai	★★★
Mortal Kombat 3	Williams	★★★
Motor Toon GP (Japan)	SCE	★★★★
Namco Museum Vol.1	Namco	★★★★
NBA Jam Tournament Edition	Acclaim	★★★★
NBA Live '96	Electronic Arts	★★★★
NBA Shoot Out	SCEA	★★★
NFL Gameday	SCEA	★★★★★
NHL Face Off	SCEA	★★★★★
Olympic Soccer	U.S. Gold	★★★
PGA Tour Invitational '96	Electronic Arts	★★★★
Philosoma	SCE	★★
Po'ed	Accolade	★★★
Power Serve 3-D Tennis	Ocean	★★★
Power Baseball (Japan)	Konami	★
Raiden	Seibu	★★
Rayman	UbiSoft	★★★
Return Fire	Time Warner Int.	★★★★
Resident Evil	Capcom	★★★★★
Ridge Racer	Namco	★★★★
Ridge Racer Revolution (Japan)	Namco	★★★★
Road Rash	Electronic Arts	★★★
Romance of the 3 Kingdoms IV	Koei	★★★
Shellshock	U.S. Gold	★★★★
Shockwave Assault	Electronic Arts	★★
Sidewinder	Asmic	★★
Silverlode	Vic Tokai	★★★
Slam 'n Jam	Crystal Dynamics	★★★
Space Griffon	Atlus	★★★
Space Hulk	Electronic Arts	★★★
Street Fighter Alpha	Capcom	★★★★
Tekken	Namco	★★★★
Tekken 2	Namco	★★★★★

Title	Publisher	NG Rating
Tokyo Highway Battle	Jaleco	★★★
Top Gun	Spectrum Holobyte	★★
Total Eclipse Turbo	Crystal Dynamics	★★
Toukon Retsuden (Japan)	Tomy	★★★★
Twisted Metal	SCEA	★★★★
Viewpoint	Electronic Arts	★
Warhawk	SCEA	★★★★
Wipeout	Psygnosis	★★★★★
Worms	Ocean of America	★★★★
WWF Wrestlemania	Acclaim	★★★★
X-Com: UFO Defense	Microprose	★★★★★
Zero Divide	Zoom	★★★
Saturn		
Alone in the Dark	T+HQ	★★★
Astal	Sega	★★★
Battle Garduna Toshinden Remix	Sega	★★★
Battle Monster (Japan)	Naxat Soft	★★
Blackfire	Sega	★★★
Bug!	Sega	★★★
Clockwork Knight	Sega	★★★
Clockwork Knight 2 (Japan)	Sega	★★★
Congo the Movie	Sega	★★
Cyberspeed	Mindscape	★★★
D	Acclaim	★★★
Dark Legends (Japan)	Data East	★★
Dark Stalkers' Revenge	Capcom	★★★
Daytona USA	Sega	★★★★
Deadalus (Japan)	Sega	★★★
Decathlete	Sega	★★★★
Double Switch	Digital Pictures	★★
Earthworm Jim 2	Playmates	★★★
FIFA Soccer	Electronic Arts	★★★★★
F. Thomas "Big Hurt" Baseball	Acclaim	★★★
F-1 Live Information	Sega	★★★★
Galactic Attack	Acclaim	★★★
Gekkamugentan-Torico	Sega (Japan)	★★★
Ghen War	Sega	★★★
Golden Axe: The Duel	Sega	★★★
Gotha (Japan)	Sega	★★★
Guardian Heroes (Japan)	Sega	★★★
Hang-On GP '95	Sega	★★★
Hi-Octane	Electronic Arts	★★
High Velocity	Atlus	★★★
Iron Storm	Working Designs	★★★★
Johnny Bazookatone	U.S. Gold	★★★
Last Gladiator (Japan)	Kaze Co	★★★
Legend of Oasis	Sega	★★★★
Loaded	Interplay	★★★
Mansion of Hidden Souls	Sega	★★★
Mortal Kombat II	Acclaim	★★★
Myst	SunSoft	★★★
NHL All-Star Hockey '96	Sega	★★★
NHL Powerplay '96	Virgin Interactive	★★★★★
Nights	Sega (Japan)	★★★★★
Off-World Interceptor	Crystal Dynamics	★★★
Panzer Dragoon	Sega	★★★★
Panzer Dragoon II Zwei	Sega	★★★★
Pebble Beach Golf Links	Sega	★★★
Rayford Saga (Japan)	Sega	★★★
Quarterback Attack	Digital Pictures	★★★
Sega Rally Championship	Sega	★★★★★
Shockwave	U.S. Gold	★★
Shinobi Legions	Sega	★★★
Shining Force	Working Designs	★★★
Shining Wisdom	Working Designs	★★★
SimCity	Maxis	★★★
Skeleton Warriors	Playmates	★★★
SteamGear Mash	Takara (Japan)	★★★
Street Fighter Alpha	Capcom	★★★
Street Fighter: The Movie	Acclaim	★★★
Striker	Acclaim	★★★
Tama (Japan)	Tengen	★★★
Theme Park	Electronic Arts	★★★
ThunderStrike 2	U.S. Gold	★★★
True Pinball	Ocean	★★★
Ultimate Mortal Kombat 3	Williams	★★★★
Virtua Cop	Sega	★★★★
Virtua Fighter	Sega	★★★★
Virtua Fighter Remix	Sega	★★★★★
Virtua Fighter 2	Sega	★★★★★
Virtua Racing	Time Warner	★★★
Virtual Hydlide	Atlus	★★
Virtual Open Tennis	Acclaim	★★★
Virtual Volleyball (Japan)	Imagineer	★
Wicked 18	Vic Tokai	★★★
Wing Arms	Sega	★★★
Wipeout	Sega	★★★
World Cup Golf: Pro' Edition	U.S. Gold	★★★
World Series Baseball	Sega	★★★
Worldwide Soccer	Sega	★★★★
Worms	Ocean of America	★★★★
X-Men: Children of the Atom	Capcom	★★★
3DO		
Alone In The Dark 2	Interplay	★★★★
Battlesport	Studio 3DO	★★★★★
BattleTanx	Studio 3DO	★★★
BC Racers	Goldstar	★
Burning Soldier	Panasonic	★★
Bust a Move	Panasonic	★★★

Title	Publisher	NG Rating
Cannon Fodder	Virgin	★★★★
Captain Quazar	Studio 3DO	★★
Casper	Interplay	★★★
Crime Patrol	American Laser Games	★★
Cyberdillo	Panasonic	★★
Cyberia	Interplay	★★★
D	Panasonic	★★★
Deathkeep	SSI	★★★
Demolition Man	Virgin	★★
Drug Wars	American Laser Games	★★
Family Feud	GameTek	★★★
Flying Nightmares	Domark	★★★
FIFA International Soccer	Electronic Arts	★★★★★
Flashback	U.S. Gold	★★★
Gex	Crystal Dynamics	★★★★
Ghost Hunter	Matsushita	★★★
Guardian War	Panasonic	★★★
Hell: a Cyberpunk Thriller	GameTek	★★
Icebreaker	Magnet Interactive	★★★
Immmerenary	Electronic Arts	★★★
Iron Angel of the Apocalypse	Panasonic	★★
Iron Angel: The Return	Panasonic	★★★
Jammit	Street Sports	★★★
John Madden Football	Electronic Arts	★★
Killing Time	Studio 3DO	★★★★
Kingdom: The Far Reaches	Interplay	★★
Lemmings	Psygnosis	★★★
Last Eden	Virgin Interactive	★★★★
Lucien's Quest	Panasonic	★★★
Mazer	American Laser Games	★
Mega Race	Mindscape	★★★
Microcosm	T&E Soft	★★
Myst	Panasonic	★★★
Off-World Interceptor	Crystal Dynamics	★★★
Need for Speed	EA	★★★
Panzer General	SSI	★★★★
PGA Tour Golf '96	EA Sports	★★★★
PO'ed	Any Channel	★★★★
Primal Rage	Time Warner	★★★
Quarantine	GameTek	★★★
Road Rash	Electronic Arts	★★★
Rebel Assault	Lucas Arts	★★
Samurai Shodown	Crystal Dynamics	★★★
Scramble Cobra	Panasonic	★★
Seal of the Pharaoh	Panasonic	★★
Shanghai: The Great Wall	Activision	★★★
Shock Wave	Electronic Arts	★★★
Starfighter	Studio 3DO	★★★
Operation Jump Gate	Electronic Arts	★★★
Slam 'N Jam '95	Crystal Dynamics	★★★★
Soccer Kid	3DO	★★★
Space Hulk	Electronic Arts	★★★
Space Pirates	American Laser Games	★★
Star Control II	Crystal Dynamics	★★★★
Starblade	Panasonic	★★
Station Invasion	Club 3DO	★★★
Super Street Fighter II Turbo	Panasonic	★★★★
Super Wing Commander	Origin	★★★★
Supreme Warrior	Digital Pictures	★★
Syndicate	Electronic Arts	★★★
The Doedalus Encounter	Panasonic	★★★★
The Last Bounty Hunter	American Laser Games	★★
Theme Park	Electronic Arts	★★★
Trip'D	Warp	★★★
VR Stalker	American Laser Games	★
Way of the Warrior	Universal Interactive	★★
Wing Commander III	Electronic Arts	★★★★★
Wolfenstein 3-D	Id/Logicware	★★★
World Cup Golf	U.S. Gold	★★★
Zhadnost: The People's Party	Studio 3DO	★★★
Jaguar		
Alien vs. Predator	Atari	★★★★
Atari Karts	Atari	★★★
Baldies CD	Atari	★★★
Battlemorph	Atari	★★★★
Blue Lightning CD	Atari	★★★★
Burn Out	Atari	★★★
Cannon Fodder	Virgin Interactive	★★★★
Defender 2000	Atari	★★★★
Doom	Atari	★★★★
Fever Pitch Soccer	Atari	★★★★
FlipOut!	Atari	★★★
Highlander	Atari	★★★
Pitfall: The Mayan Adventures	Atari	★★★★
Rayman	Atari	★★★★
Syndicate	Ocean	★★★★
Tempest 2000	Atari	★★★★★

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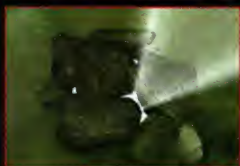Brisbane, CA 94005

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Write on the money

I was shocked (but proud at least to be remembered) when I found my name in Chris Crawford's The Way Games Ought To Be ("Where are they now?") column (**NG 18**). It compelled me to set the record straight. I first became aware of Chris's piece on the E³ show floor and was approached by many industry associates with taunts like, "Hey Mark, a grain of sand, a gust of wind, and nothing is to be heard of from John Gay and Mark Pierce! Boy what happened to you?" So please, bear with my vanity while I set the record straight.

Mr. Crawford is right; I was the designer/animator of *Dark Castle* and *Beyond Dark Castle*. I thank him for the recognition. I was also one of the three founders of MacroMind (now MacroMedia) where I drew, animated, and co-authored *MusicWorks, ArtGrabberW/ BodyShop*, and most importantly, *VideoWorks* (now known as *Director*). For seven years I was designer/animator/project leader at Atari Games in Milpitas, CA, on the coin-op games *Road Riot 4WD*, *KLAX*, *Pit-Fighter*, and

Area 51 **is still rippin' up the charts, leaving** *VC2* **in its wake**

Escape from The Planet of the Robot Monsters, as well as designer and animator on the hit *RoadBlasters*. For the past three years I have been senior vice president of Coin-Op Product Development, and have delivered the coin-ops *Primal Rage*, *T-Mek*, *Hoop It Up*, and *Area 51*.

Quite honestly, all of this leads me to believe that the question "Where are they now?" should be asked of Mr. Crawford. What games has he done since *Balance of Power?*
Mark Stephen Pierce
pierce@agames.com

Thanks for letting us know where you are, Mark. Your vanity is certainly justified! However, the main thrust of Chris's article — that it is great graphics and not great gameplay that tends to grab the headlines — remains valid. And the current elevation of *Myst* creators Rand and Robin Miller to superstar status is proof.

B efore Christmas I stopped into a videogame store and I asked one of the sales associates if the Nintendo 64 would be better than PlayStation. He laughed and said "No way" because Sony was going to make a 64-bit upgrade for their system which would be more powerful than Nintendo 64. So I bought a PlayStation, but now I'm reading about a PlayStation 2 coming out in 1997. What's the story?
Brian
PSXbrian@aol.com

Little is currently known about PlayStation 2, except that PlayStation chipmaster Ken

Kutaragi has been working on the machine practically since the original hit the shelves. It's definitely a 64-bit console and probably won't be an upgrade for existing Sony consoles (as for your "sales associate," well, he got you to buy a PlayStation now, not an N64 a year later — caveat emptor), but the rest is pure rumor. The fact is that Sony itself has no real idea about what will happen over the next few years, so it is just keeping its options open. When we find out any more info, we'll be sure to pass it on to you.

I recently purchased Virgin's *NHL Powerplay '96* for my PC. It seems that it, as well as many newer games, runs only on Windows 95. At first, this intrigued me — finally, a rationalization for being an early adopter of Win95!

However, I was soon disappointed. On my Pentium 75 (unfortunately I can't afford a Pentium 133 or 166 simply for my gaming pleasure) the game's smoothness leaves a lot to be desired. Even with all other applications closed, it in no way can compare to the smoothness of EA's *NHL '96* on DOS (even with EA's far superior graphics).

Don't misunderstand me, I would love to run all my games via Win95, but based on *NHL Powerplay '96*, this system seems less than perfect. Any insights?
Sean Fitzpatrick
Columbus, Ohio

Maybe. Assuming you can't afford to buy a totally new PC, you might try adding RAM. Win95 is a serious memory hog, so Heaven help you if you've

only got 8 MB. There have even been cases where even 16 MB wasn't enough (the "animated heralds" of *Civ II* rarely work with only 16 MB, for example). You could also try upgrading your video card to one with at least 2 MB of video RAM.

M y fellow American videogame players, it's time to take a stand. For years now we have let people who know nothing about videogames push, shove, and throw us around without us having a say in it. If one "important" person cries about something they don't like, a game can be forced off the shelves of stores. We as gamers can't let a group of people such as congress rule our world. If we keep letting them give us orders we will not have any say in the way videogames are made. We must make a stand now and show that we as a group are greater and more powerful then they are. If we don't act now we will be forced to play G-rated games for the rest of our lives. We must all band together as a whole — videogame players, magazines, and companies — and show them we will not go without a fight, we will not stop until we rule our own world.

We will not be slaves to people who do not understand us. We need companies and magazines to lead us into battle, for when they make the move, we, the gamers, will follow them to victory.
Justin Barber
Bruins@worldnet.att.net

Yeah. Down with The Man.

corresponding

W hen you have an unlimited budget, two years of development, 40 full-time developers, direct access to the hardware designers, and the genius of Shigeru Miyamoto how can you lose? I have no doubt that *Super Mario 64* will be a great game, but do we really need to hear this dozens of times every issue?

Joshua J. Stella
Peoria, IL

Have you played it yet? If you had, maybe you'd understand why it's easy to get so excited.

I recently purchased an N64 import along with *Super Mario 64* and would like to say it is by far the greatest game I have ever played in my entire life. However, I do have a little problem with the AC adapter for the system. In a very short time for it gets really hot, and since the adapter is directly connected to the rear of the system itself, the chassis heats up as well. I don't like this and hope Nintendo will rectify this problem, maybe by having an add-on to the adapter which will lengthen the distance between it and the system. Just an idea.

Raymond Huh
rhuh@ic.sunysb.edu

A word of caution: The line voltage used in Japan and the U.S. is very different — 100V in Japan versus 120V in the U.S. What this means is that if you plug a Japanese appliance (like an N64) into a U.S. wall socket, it's getting more juice than the power supply is built to handle.

Generally this isn't a big problem, but the odd blown internal fuse or cracked power supply are the calling cards of the gray market (especially if you live in an area with less than stable wall current). Domestic N64 power supplies are being designed to step down the higher voltage.

I wish to comment on *Super Mario 64* and the N64. In **NG 20**, page 42, you wrote, "We'd all buy a system to play just the one game. Wouldn't you?" The sick truth is, and Nintendo knows it, most hard-core gamers will.

I have many doubts about the system (due to the cart, DD64, games, etc.) but all someone has to say is *Mario 64* and all my doubts are gone. It's sick, but I figure you can't put a price on Mario —the Mona Lisa of our generation?

Andy Goren
RWStrider@aol.com

While every hard-core gamer certainly feels this way, the real question is, how many regular people on the street feel the same? Much as we hate to admit it, the hard-core gamer is a rare enough breed to not matter much to Nintendo's success in the long run. If they did, games like Myst would be dismal failures and more people would listen to Chris Crawford.

A t the end of your excellent analysis of the Nintendo 64, you pose the question: "We'd all buy a system to play just one game. Wouldn't you?" To this I can only reply: No.

I consider myself a pretty hard-core gamer. I'm on top of all the latest developments in hardware and software and, hoo boy, can I get wrapped up in the hype. Fact is, even $199 plus $49 for a game is a lot of money to spend on an entertainment product. You don't want that investment to end up as a doorstop.

I look at a system like Nintendo 64 and can only think "I'd love to play *Mario*, but the rest bores me." I felt the exact same way about Saturn. *Virtua Fighter 2* is my absolute favorite arcade game, and I'm dying to play *VF3*. Yet even after reading that the Saturn conversion of *VF2* was near perfect, I couldn't commit myself to purchasing the system. Think about it. I could play 700 games of *VF2* in the arcade, where the graphics, sound, and animation are the best that they can be, or own a "close" home version.

Unless you can break down the initial cost of the system over a number of quality games the math just doesn't add up. And if Nintendo underestimates the importance of having a well-stocked library of "must have" games, we'll soon be comparing the once-mighty Nintendo to Atari, and *Mario* to *Pac-Man*.

Karl J Borst
kabo@mackerel.com

Other than there being an advantage to able to flop down on the couch with VF2, as opposed to fighting the crowd in a possibly crowded arcade, the point is well taken.

I for one, would like to praise your reviews. It seems every time I read your letters section people are complaining about poor reviews that you gave to games (mostly 2D fighters). *Mortal Kombat*

Reader Karl Borst places *Blast Corpse* just after *Mario 64*

games and *Killer Instinct* games have a large fan base, but you have consistently stuck to your guns, and I would like to point out to other readers that you clearly say you grade higher for innovation. There is no quantum leap from *MKII* and *MKIII*, and even less between the latter and its "ultimate" version.

Lukas Haule
Newton Ma.

See? So there.

I n response to your N64 article on the 10/20 success/failure thing, Dave Perry whines about how his *Earthworm Jim* cartridge was overpriced (**NG 20**). The

answer to that is that Nintendo produced somewhere around three million copies of *Donkey Kong Country*, and I am sure there were not as many *EWJs* produced. He should check the supply and demand, not call Nintendo cheaters.

Tyler LaGrange
bigsixty@aol.com

Dave Perry's point was that DKC was cheaper than EWJ, even though DKC needed a larger cart, because Nintendo didn't charge themselves the licensing and manufacturing fees third parties must pay, incurring only cost of goods. He's right. And it's this, not supply and demand, that is the reason why third-party developers often feel undercut by Nintendo.

Y ou say, "game companies prefer to aim their campaigns at the audience they know, rather than risk millions on an audience that no one's sure exists."

We, the female audience, do exist, and we are rapidly increasing in numbers. I would dearly love to see games geared toward us "gentler" gamers who would like a good story and interesting challenges without being subjected to a splatterfest (for example, the disappointing *Phantasmagoria*). Perhaps if gaming companies took that bold risk, they would be pleasantly surprised by the lucrative response. We are here, we have money, and we are eager to play!

Barbara Wood
Riverside, California

Agreed.

W ould that be a regular bikini or a string bikini?" Come on people, who picks what crappy messages you print, anyway?
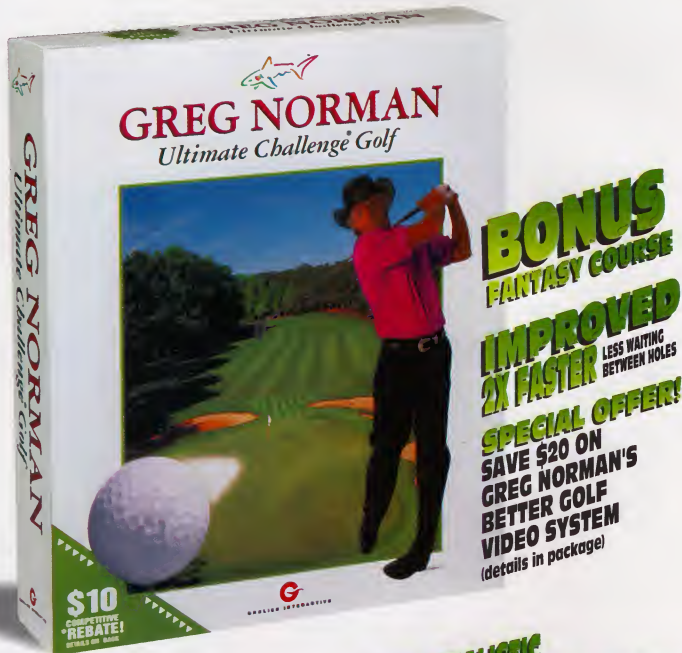
Kenneth Anderson
kenneth@beachside.com

Look, when it comes to Roseanne in a bikini, we think it's best to be as prepared as possible. It's a very serious proposition.

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